THE HEALTH MAGAZINE

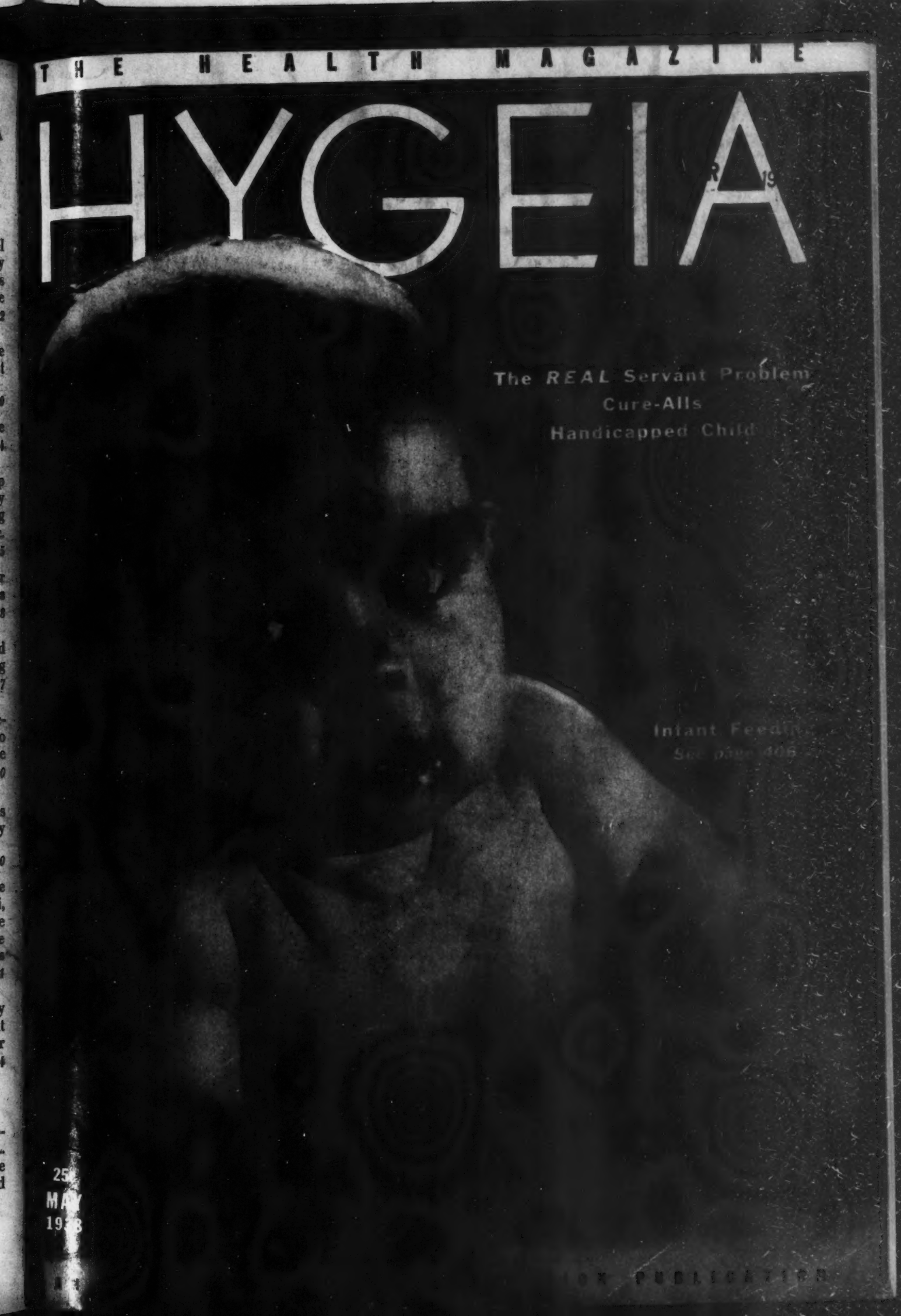
HYGEIA

MAY 19

The *REAL* Servant Problem

Cure-Alls

Handicapped Child



Infant Feeding
See page 406

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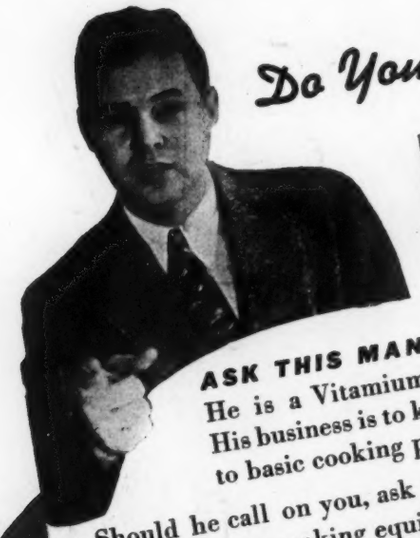

Do You Know

WHY

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- —you may unknowingly rob foods of part of their nourishment, even when carefully selected?

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WHY DO WE BELIEVE *Vitamium*
IS THE THRIFTIEST OF COOKING UTENSILS?

1. More nourishment at lower cost.
2. Saves time and effort.
3. Preserves natural appearance and flavor of foods.

ILLUSTRATED ON THIS PAGE:

A. Double filter coffee maker.
B. Heat conducting skewers for thorough cooking.
C. Scientifically designed spiral heat distribution.
D. Individual heat registration in each utensil.
E. Vitamium cross ventilation principle.

Write for detailed information about this new scientific cookware.

COOKWARE COMPANY OF AMERICA

"Vitamium" Ware TRADE MARK

HARTFORD, MICHIGAN

A typical group learning new cooking secrets from the Vitamium representative

GLASSES

I'm a little girl with glasses on.
At first it made me sad,
But father told me something
That has made me truly glad.

He says when a girl wears glasses
It shows that someone cares,
And that if there is trouble
That trouble someone shares.

Some eyes, you know, are not made right
And lenses make them better.
They make it so you plainly see
Each tiny word and letter.

So any child with glasses on
Has one who loves him dearly.
Since my father told me that
I wear my glasses cheerily.

—Lois E. Dann.

BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

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MAY 1938 Vol. 16 No. 5

HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1938, by the American Medical Association. Edited by Morris Fishbein, M.D.

PRESENTING

J. SANFORD KRUGLICK, M.D., assistant medical director, Chicago Tuberculosis Institute, who stresses the importance of a "clean bill of health" for domestic employees and advocates health examinations for them.

ANNE L. NEW of the Public Relations Division, Girl Scouts, Inc., who reveals an interesting phase of Scouting, the work done to give handicapped children, the blind, the deaf and the crippled, a sense of sharing the program of normal children.

PERSIS PENNINGROTH, principal of the Country Day and Boarding School, St. Petersburg, Fla. Her present work, her former position as a nursery school teacher and her invaluable experiences as the mother of two children qualify the author to give other parents important suggestions concerning their part in the preoperative and postoperative care of their children.

HERMAN M. JAHR, M.D., who last year discussed for HYGEIA readers "Bad Habits in Good Babies" and now begins a new series on "Bad Habits in Good Children."

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SELF-PORTRAIT

of many

Business Men

MANY a business man pictures himself as a sort of modern Atlas—supporting the fate of the world on his shoulders.

He sincerely regards his work as indispensable to the success of the business, and recoils from anything that he feels might take him away from his job.

That's why it usually is so difficult to get such a man to pay proper attention to his health, even though he is troubled by persistent signs and warnings that something is wrong.

For at any suggestion that he heed these warnings—that he see his doctor—he says: "Yes, yes, I suppose you're right. But what if the doctor should order me to stop work for awhile? Who'd take care of my job? What would happen to the business?"

And the irony is that one of the surest ways of encouraging a *serious* sickness is to neglect a seemingly *small* one. Heart and other organic diseases, stomach ulcers, and nervous disorders—diseases to which men in the so-called "prime of life" are particularly susceptible—thrive on neglect.

When you see your doctor he may prescribe a short rest. But isn't that better than a forced *long* rest later? He might say: "Take things easy. Leave the office an hour earlier." But isn't that better than driving on relentlessly until you're *carried* out of the office?

Let us hope, of course, that your disturbance will turn out to be a minor one—and that its treatment will be simple, its correction rapid. But whatever is wrong, you'll be better off if you start correcting it before it becomes really serious. The most sensible thing you can do, therefore, is to see your doctor *now.*

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See your Doctor

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Ewing Galloway

I HIED ME OFF TO ARCADY—
THE MONTH IT WAS THE MONTH OF MAY,
AND ALL ALONG THE PLEASANT WAY,
THE MORNING BIRDS WERE MAD WITH GLEE,
AND ALL THE FLOWERS SPRANG UP TO SEE,
AS I WENT ON TO ARCADY.

— Louise Chandler Moulton.

EDITORIAL

Medical Care for All the People

THE AMERICAN MEDICAL ASSOCIATION is making the most comprehensive and realistic inventory of the demand for and supply of medical services ever undertaken in this country. The study is being made by doctors; the answer will come from doctors.

This is not a new line of endeavor. The first meeting of the American Medical Association, in 1847, provided for a survey of conditions affecting health in the United States. As a result of that study the Association adopted a resolution urging the establishment of departments of public health. Ten years of public education and agitation by the medical profession resulted in the establishment of the first state health department. As state medical societies were organized they took up the campaign, until every state, most cities and many counties now have such departments.

Good medical care depends on good medical education. The principal reason given in the call to organize the American Medical Association was the improvement of medical education. During the last thirty years the Council on Medical Education and Hospitals of the American Medical Association has spent over a million dollars in surveying medical colleges and hospitals and in establishing and urging the use of ever rising standards of education in the colleges and of service and instructional opportunities in hospitals.

A half century ago the law permitted almost any one to practice medicine, since there was an almost complete absence of legal control over the qualifications of physicians. Today, thanks largely to organized medicine, the standards of admission to practice ensure that medical care will be furnished by as highly qualified physicians as exist anywhere in the world.

The Council on Pharmacy and Chemistry of the American Medical Association has given years of study and struggle to the work of establishing and guarding the standards of purity in drugs, which is essential to good medical care.

For some years now, our people have been deluged with proposals for improvement or change in the provision of medical services. During the last five years, state and county medical societies have tried more experiments with plans for furnishing medical care to the indigent and low-income classes than have all other organizations combined. In carrying out these experiments, organized medicine has cooperated freely —often at great personal and financial sacrifice to its members—with federal, state and local governments as well as with a multitude of private organizations, in efforts to provide better medical care for all the people.

In accordance with its ideal of maintaining a high quality of medical care, the medical profession has opposed every feature of every plan that would lessen the value of medical service. Every effort to substitute unqualified lay or political management for qualified professional control, to take away the right of the patient to choose his own physician, to mechanize, standardize or regiment medical service and thereby destroy its quality, or to load the cost of medical care with the expense of a meddling, political bureaucracy has been opposed by organized medicine.

Many of these experiments were failures; some were partial successes, and a few offer some encouragement for wider development. These are the results of all honest experimentation. Some diseases were studied and treatments tested for centuries before they were conquered; yet such study and experiment did abolish many of the worst plagues that once scourged the world. That the life span has been doubled in less than a century is proof of the value of this method.

The same method is now being followed to achieve progress in the organization of medical service. We must first know all possible facts about the demand for and supply of medical services before the problem of providing better medical care for every one can be solved. The present study is like the thorough diagnosis that should precede the best medical treatment.

The foundation of facts on which correct action can be based must be drawn from the answers to the following questions: What are the facts concerning the supply of medical care in your county? How many physicians and dentists serve your community? How many hospital beds are available, and how many are occupied? What facilities and services are furnished by the health department? When these and numerous other questions are answered a fair picture of the supply of medical facilities and services in the community will be presented.

Then will come the question of the extent to which this supply meets the need and the demand for medical care. Public and private relief agencies will be asked to tell how many persons their records show needed and asked for medical care which they did not receive during the past year. Are there sections of the community where medical care is not available when *desired*? Do not overlook the word "desired." Because persons who said they were sick did not have the services of a physician does not by itself prove lack of medical care—they may have preferred the services of some cultist or self medication or may have "just let it go." Such a situation may indicate the need of public education rather than the lack of medical care.

Better medical care for all the people comes through continuous improvement. The medical profession does not claim that its services are the only element in maintaining health. The supply of sufficient and proper food, clothing, shelter, recreation and education in health care are some of the other elements, not all of which are within the power of the medical profession to change. Physicians have no more responsibility for indigence and low incomes than other citizens.

This inquiry is to determine when *better* medical care can be furnished to the indigent and low-income classes by some change in use of the medical and financial resources available and also to what extent and how it may be possible or desirable to increase existing resources. If the lack of needed medical care is due to lack of information as to available medical resources, this calls for better organization of information. Accurate knowledge of a deficiency in resources is the first step toward determining to what extent and in what manner those resources may be increased or how inefficiency in the use of present resources may be reduced or abolished.

None of these problems is easy or simple. They must be examined and analyzed one at a time. The objective is steady improvement, not sudden perfection.

Wings Over Guthrie

Beyond the frontier lies ignorance, and to cross it takes courage and the conviction that what you are doing is right. ***EDWARD D. NIX*** ***tells the story of Indians, a stork and a medical frontiersman of the mauve decade***

JIMMIE BEVEE'S stork beat the snow and wind with weary wings. The several hours of strain during which his arrival had been delayed had reduced the valiant mayor of Guthrie, Oklahoma Territory, to an ungracious host and the conventionally nervous pulp of a badly frightened father-to-be. The cries of agonized effort that had come for a while from the room of labor overhead had been replaced by a terrifying monotone of rhythmically insistent sobs of exhaustion and despair. Ordained pain had indeed well near done with its victim —and with its bystanders, too.

With the dignified tranquillity of his custom, Chief Running White Horse masked his own disgust at such delay and weakness behind an expression of beatific innocence. In this he was assisted by the mellow stupor induced through the frequent libations he had poured through the waning hours of the night. Without apology, Chief Bald Eagle slept in erect, stern dignity. He had come to offer presents to the mayor on the birth of a son; and he had no intention of leaving until his errand had been completed. An unmistakable atmosphere of Osage, Cherokee and virtue filled their corner of the parlor. The atmosphere, if not the virtue, had gradually penetrated the rest of the house. Huddled down in the warmth of their blankets in the whirling, drifting snow outside, two tribesmen waited with a patience matched only by that of the four disspirited cow ponies they attended.

It was indeed an annoying situation. Mayor Bevee stopped pacing the floor and looked up eagerly as old Dr. Boyard came slowly downstairs to the room. The two Indians didn't move but, quickly awake, waited with hopeful interest for what should develop. Boyard was tired. Shirt sleeves rolled up, his powerful, hairy arms appeared too heavy for his weary shoulders. His heavy paunch sagged down on the waistband of his trousers—seemingly too much of a load for the broad red suspenders to sustain for much longer.

"How's she doin', Doc?" the mayor asked the eternal question, twisting the long end of his moustache and nervously fondling the thick butt of the plainsman's revolver that, long forgotten, was still strapped around his waist.

"Well, ain't doin' so bad. Ain't doin' so good, neither." Dr. Boyard weighed his words carefully. "That's why I come down to speak to you. Ain't no real danger, yet," he added quickly to quiet the husband's alarm, "ain't no great danger, exactly—things jest ain't goin' so well. Your wife is plum' wore out, and they ain't no use takin' any more chances. In a few minutes now she'll be having another hard labor, and then's when I aim to take the baby with my instruments. Now don't get excited!" He held up a heavy hand in opposition to the other's remonstrance. "They won't hurt her none, 'cause I aim to give her jest a little whift of chloroform to ease things on a little."

The mayor glanced instinctively at the two Indians. But if they had overheard either of these two humiliating proposals they gave no sign. Bald Eagle's eyes seemed to have gone closed again; and Running White Horse was engrossed with a fresh nip of liquor.

Doc Boyard stepped over to the bottle on the parlor table and poured a comfortable draft for himself. He held his head back and swallowed the liquor roundly deep in his throat.

A sharp cry of pain from the room upstairs brought him briskly back to business. "Now you jest be quiet a few minutes, and everything will all be right-side-up." He addressed the mayor but hurried on past him. There was no time now to trifle with the implied consent the announcement of his plans had received.

Boyard had a progressive, wholesomely profane impatience at every opposition to the little help that forceps and chloroform could provide. Upstairs he shrugged his shoulders with good natured resignation, however, as Mrs. Harbing-

horst frowned her disapproval on his preparations.

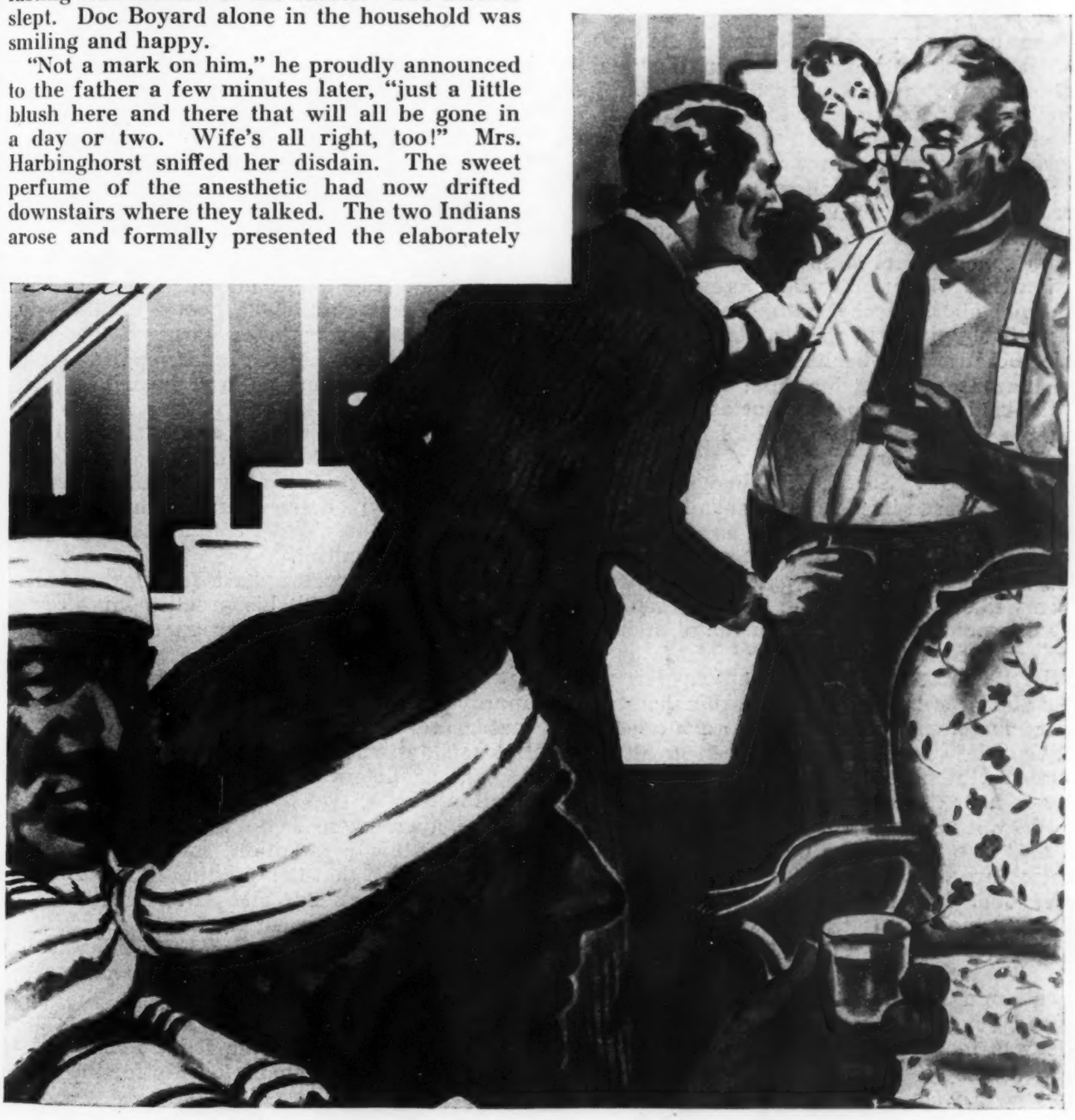
Godmother-to-be and nearest neighbor—her mutton sleeves bristled with her helpless indignation. But as recurrent pains racked the woman on the bed, Boyard completed his preparations quickly. His "whift" of chloroform was a good healthy dose, his forceps mercifully positive. And thus it was near midnight on the eve of Jan. 28, 1895, that the stork paused at the Bevee home and with journey's end in sight gave a few weak flaps to its wings and thus completed life's universal accident for Jimmie Bevee—popping him somewhat ungraciously into the world in the grip of Boyard's forceps—and placed him thus naked before the stern disapproval of his own godmother and the lasting humiliation of his father. The mother slept. Doc Boyard alone in the household was smiling and happy.

"Not a mark on him," he proudly announced to the father a few minutes later, "just a little blush here and there that will all be gone in a day or two. Wife's all right, too!" Mrs. Harbinghorst sniffed her disdain. The sweet perfume of the anesthetic had now drifted downstairs where they talked. The two Indians arose and formally presented the elaborately beaded papoose case they had brought for the child, the beaded buggy whip for the mother, the beaded walking stick for the father.

The mayor wiped the cold perspiration from his forehead on the back of his hand as he accepted these presents and poured another drink for the chiefs of the two tribes.

"Little Chief Long Hunter we name him," Chief Running White Horse announced for them both. With their ceremonial duty over, when the door had closed behind them and they stood outside in the snow, an exchange of grunts of

"NOT A MARK ON HIM," THE DOCTOR PROUDLY ANNOUNCED. "WIFE'S ALL RIGHT, TOO!" MRS. HARBINGHORST SNIFFED HER DISDAIN. THE SWEET PERFUME OF THE ANESTHETIC HAD NOW DRIFTED DOWN TO WHERE THEY WERE TALKING



disapproval was their only additional comment to each other. Slowly, as the ponies stretched their stiff cold muscles at a gentle walk, the two chiefs and their attendants faded like silent fantoms into the snowlit shadows of the night. But the shadow of their disapproval was not lifted from the house.

Home at last in his own rooms at the Cherokee Strip Hotel, Dr. Boyard dropped his instrument case on the bed, wearily pulled off his boots and trousers, unfastened the wilted collar from his shirt, poured himself a stiff drink of whisky and then studied the empty glass for a few minutes as he reflected on the harm Mrs. Harbinghorst's sharp tongue would shortly be doing him. With this half weary, half whimsical reflection he fell asleep across the bed—a grotesquely heroic figure in thick red underwear.

That he was a profane violator of the laws of God and nature was a defect in the qualifications of Dr. Albert Boyard that Mrs. Harbinghorst announced with every bitter detail as quickly as her indignation allowed her to become coherent. She found her voice, in fact, early in the forenoon following Jimmie Bevee's arrival. Its use was her chief occupation during the next three days. She even allowed to suffer some neglect those prerogatives of supervision that were rightly hers as nearest friend and neighbor, to say nothing of godmother. Secretly she made her visits to the Bevee home brief because of a healthy fear of Dr. Boyard. On the one occasion they met she maintained a dignified critical silence; but as he was leaving the house, Boyard paused before opening the door, hat in hand.

"You know, Sarah Harbinghorst, there's another passage in the Bible that's been on my mind lately almost as much as some you've been quoting. Did you ever hear about Adam and the way Eve was brought into the world? Seems like God put Adam to sleep somehow, so's it wouldn't hurt so much takin' of his rib the way he did."

Dr. Boyard's manner was quiet. His voice was almost a caress. Sarah Harbinghorst once heard two men speak quietly to each other like that on the street and hadn't been greatly surprised in the news of the frontier town the next day to hear they had shot each other.

"Why, it gave me cold chills, the way he spoke to me," she related the incident to the sympathetic ears of the Baptist minister's wife that afternoon, "him a standin' there and quoting the Bible to me like that. 'Twas just like jeering in the face of God. I tell you, Virginia Thompson, it's written—'In sorrow bring forth children'—and them that tries to escape it, like Alfred Boyard made poor Mary Bevee do when she was too weak to help herself, has got to pay some way. It just breaks my heart the way that poor woman is lyin' there right now, so pale and weak she can't hardly move—and the poor baby still has bruises on its face—all squeezed up. 'Course it's only 4 days old now, but you can't tell me it's pert like a natural child, and I certainly ought to know because I had to stand there and suffer the whole performance."

And so the minister's wife told the minister, and the minister based his text on the will of God—discreetly avoiding too direct a reference to his subject. The mayor had a reputation for a quick temper as well as a quick hand. But even among those not religiously inclined, there developed quite an undertone of questioning as to why the mayor had permitted such proceedings in the first place. For the birth of the mayor's son was news. Its circumstances were delicious scandal. Its epilogue, however, came close to sober tragedy.

On the fourth day after the delivery, Boyard knew that Mary Bevee had puerperal fever. Vain then was cursing Sarah Harbinghorst's failure to comply to the letter with the septic rules he had prescribed. Vain was anything except the effort to save the woman's life. In the fight he fully realized he was fighting for his own professional vindication in the Western town. Other physicians have suffered the bitter humiliation he received right at the moment of his victory, when the mayor, urged on by anxious friends, brought a doctor all the way from Kansas City to take charge of the case. The improvement that the latter reported three days later might just as well have been Dr. Boyard's report. The gall of this injury was further aggravated by the report that spread quickly about the town, that the Kansas City doctor had expressed his disapproval of the use of anesthetics in delivery in any but extreme cases and then only under conditions permitting high scientific control.

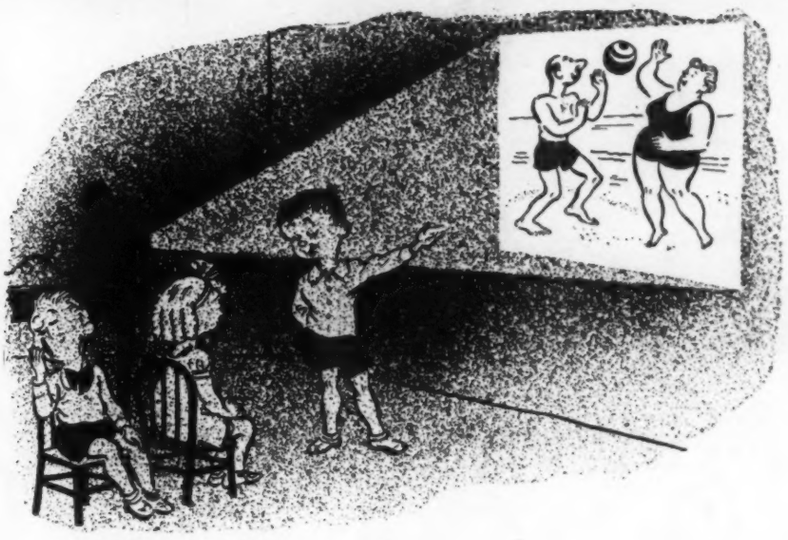
'Twas a bad spot indeed for Boyard. He knew that henceforth his practice must come elsewhere than from the group of social and business leaders of which the mayor was a natural part. He felt on every hand the disapproval—the purpose of the guarded questions that he met in almost every casual conversation. But nobody twitted the doctor openly. His 220 pounds of determined power prevented this small injury.

True, there were some who questioned the justice of this persecution, some who hoped, though timidly, that the question of right might be on the doctor's side and that there was real virtue rather than harm in anesthesia. Gladwell, the one dentist the town afforded, was an open champion of the doctor; but he was known to be radical on all questions.

A certain civic pride that resented the necessity for bringing a doctor from Kansas City provided some mild championship for the local physician. But this was *(Continued on page 463)*

Comes the Revolution

CARL ROSE in *Scribner's Magazine*



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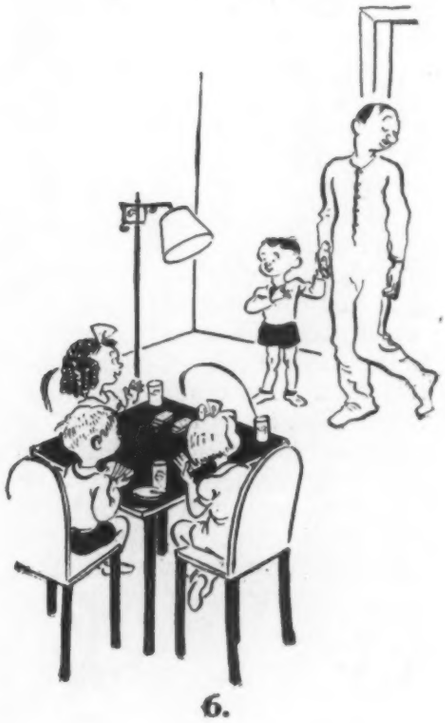

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The REAL Servant Problem

RECENTLY, while visiting some friends in a southern resort town, I was present when my hostess interviewed a prospective domestic. She already had a cook and an infant's nurse but wanted some one for the house cleaning. This person was not to live at the home but to come in several hours daily.

After a thorough inquiry as to her capabilities and references I was amazed to hear my hostess ask, "Have you your health card?" The card was produced, and the applicant was awarded the position.

On inquiring as to the nature and significance of the health card, I was informed it was a certification from the local government hospital that the individual was free from venereal disease. Further questioning revealed that the nurse of the household had had a complete physical examination, including a blood test for syphilis and an x-ray examination of the chest for tuberculosis. The cook had had all this and a stool examination for typhoid and dysentery. At first I thought I was being hoaxed but on investigating found it to be true. Inquiries of a similar nature in other homes showed that practically none had omitted the examination of their domestic help.

Returning to my home, I started a crusade among my relatives, friends and patients for the routine examination of all household employees. I began by consulting with them as to the advisability of such examinations but was rebuffed. In many instances the rejoinders were, "She looks so healthy" or "She's so sweet and good to the children, I'm sure nothing could be wrong with her." In other instances I was rewarded with, "I've been hiring girls for years, and nothing has happened yet." Even within my own family my attempts were futile until a near catastrophe occurred.

In the medical literature there are many recorded instances of transmission of disease from nurse to infant or from a cook to a whole family. The story of "Typhoid Mary" is of course classic. A cook who was a carrier of typhoid, she infected hundreds.

The transmissible diseases most feared are tuberculosis, syphilis and gonorrhea, though one should not overlook typhoid, dysentery, diphtheria and streptococcic infections. Carriers may act and appear perfectly healthy; yet a thorough examination may uncover any of the illnesses mentioned.

I can recall the horror of my first experience along these lines. During my student days a friend asked me whether syphilis in a child were curable. Not knowing the answer I countered with "Why?" I was told that his niece, 1 year of age, had contracted the disease from a maid who had kissed her. This appeared incredible, and on asking for details I learned that at the time she was employed the girl had a "cold sore." She did her work well and was so attentive to the baby that her mistress was extremely well satisfied. When, subsequently, the child had a "cold sore" it was disregarded. However, when later a rash developed the child was taken to a physician who diagnosed syphilis and traced the source of the infection. All the unhappiness and expense caused by this infection might easily have been avoided by an examination before employment.

In another home the last two maids have had active cases of tuberculosis. Fortunately the head of the house is a chest specialist and recognized the disease before either of his children became infected.

In one household, a new maid coughed severely. She thought it a "cigaret cough," but since the girl had a slight fever her mistress

By J. SANFORD KRUGLICK

sent her to a physician for a physical checking. Examination revealed a far advanced tuberculosis, with a positive sputum and, incidentally, gonorrhea, making her highly infectious. The two children of the household are at present under supervision as tuberculosis contacts. Since this occurred, all new employees in this household are examined by a physician.

In another instance a physician, called to a patient's home because the maid was in coma, found that she was diabetic. The girl knew she was suffering from diabetes, but in trying to hide it she had failed to follow her diet or take insulin as needed. When she recovered she retained her position and was able to care for her illness.

What is perhaps the cruelest fate possible befell an infant who contracted a gonorrheal eye infection which led to blindness. One can conceive of no higher price, short of death, to pay for negligence.

It would be possible to quote numerous other cases, especially of tuberculosis. In some instances, death resulted. It is not, however, my object to coerce examinations by instilling fear but rather to instil common sense.

I am not attempting to discriminate against nurses, cooks and maids as a class. In many, if not all instances, they are unaware of their illnesses; and in all cases I feel sure they would cooperate to the extent of an examination were it to be suggested. It is true they may contract the illnesses while employed. Therefore these examinations should be made periodically.

However, I am condemning the supposedly intelligent people who fail to show discrimination in employing home help. A certain percentage of any given group of people will have the aforementioned illnesses. It is probably lower than usual in the group under discussion; yet some will have tuberculosis and some syphilis, and some will carry other diseases.

These people come into the home to live and are in constant contact with members of the family. In some instances they may share the children's room; yet no inquiry is made into their state of health. Somehow, it seems that a serious disaster, such as occurred in some of the cases mentioned, is necessary to promote precautionary measures.

The expense of such examinations, I feel sure, can in each case be arranged to the satisfaction of both the employer and the employee. What is perhaps the best arrangement is seen in certain foreign countries, where the employment agencies have all applicants thoroughly examined before sending them into the home.

Remember that apparently perfectly healthy people may be carriers of the disease and that the diseases mentioned may be highly infectious and yet present few symptoms. In each case, "it only has to happen once."

A KISS FROM AN AFFECTIONATE BUT INFECTED MAID HAS BROUGHT UNTOLD MISERY INTO MANY HOMES.

FOR A CHILD'S SAKE

Stimpson Hubbard

***GRACE IGO HALL** describes the transformation of a pearl necklace into something far more precious—a hospital where children are made whole and strong*

THIS was a house of children. Every item of its equipment, the cheerful, friendly rooms with their tiny beds of crisp white freshness; the large sundecks, opened to the soft blue sky above filled with snowy, misty cloud puffs; the brightly decorated peach and blue recreation room with its huge stage equipped for motion pictures; the attractive library and schoolroom with its prettily bound books; the pools of brilliant, sparkling water glowingly clear—all had been designed to bring happiness to children. Truly, it was a place of beauty with walls, floors and decorations throughout in delightfully harmonizing colors that would capture the heart of any youngster.

I had come dreading to see the children themselves. I had expected to see small tots with pitifully sad, serious little faces clouded with suffering, for this was the Denver Children's Hospital. Instead, I saw bright-eyed children with sunny smiles and laughing eyes.

In one bed a precious freckle-faced little girl, who wore around her shoulders a bright-hued bathrobe and who sat propped up in bed against billowy pillows, paused long enough to peer at me from the top of a picture book with her big, cheerful blue eyes. Across the room an adorable red-headed child laughed outright at some character in a comic sheet she was reading, while directly on the other side of her, peace and contentment were reflected on the face of a curly-headed youngster sound asleep.

Not only is this hospital a beautiful and delightful place for these children to be, but it is also a place where they receive the best of care for their afflictions. Here thousands of helpless youngsters with ailments that have in the past seemed unconquerable are being helped, unbelievably, along the road to health. Many of them in time will be able to play, to run and jump on strong little legs. This hospital is not merely a local institution; it has worldwide significance.

Years ago, in 1881, the first children's hospital in the United States was established in Boston. Dr. Thomas Morgan Rotch of Boston, who held

at Harvard Medical School the first chair of pediatrics, firmly believed that the nursing requirements of children were quite different from those of adults, that there was a better way to cure children when they were ill than taking them to a hospital where there were also adult patients. The logical answer to the question of how to give the children the best care, he rightfully reasoned, would be to place them in the most satisfactory environment possible, a hospital patterned for children alone. Keenly sensing this need, he helped to promote, design and erect such a hospital for children exclusively. Soon members of the medical profession everywhere recognized the wisdom of Dr. Rotch's idea, and from then on similar hospitals for children were built all over the country.

There is little about this immense Denver Children's Hospital of today to remind one of the small, rented house in 1906, which first sheltered a few sick children. For several years the sponsors resorted to every means imaginable to raise the money to build it. Charity balls, bazaars, public readings and concerts were given, and money and members were solicited. Finally, on Feb. 17, 1910, a hospital with a small amount of equipment purchased a few weeks before was opened.

But soon the number of sick children needing care far surpassed this small hospital's capacity. And again, for several years, money-raising campaigns were conducted and endowments were sought until a sufficient amount was raised to build another hospital. This institution was opened in February 1917. As the years passed, it was apparent that more money was badly needed.

Then in 1921, Mrs. Agnes Reed Tammen was asked for a donation of $25. She decided to visit the hospital, and when she did she took note of the pitiful conditions revealed to her on every side. She saw many sickly children crowded together in a place not half large enough to house them. She realized something had to be done—and at once. "Suppose," she reasoned, "I do without the pearl necklace my husband promised me for a Christmas gift and

A HOSPITAL MOST SATISFACTORY FOR THE CARE OF CHILDREN WOULD BE ONE PATTERNED FOR THEM ALONE.

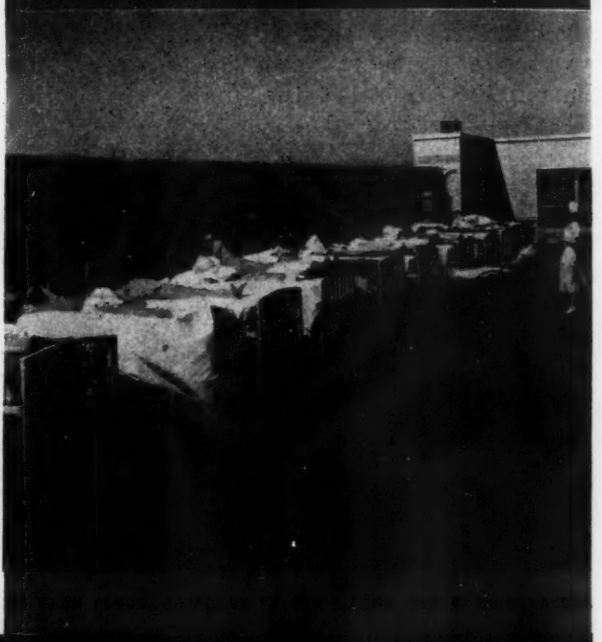
give the money for the care of these children who need it so badly." Eagerly she laid her plan before her husband, begged him to accompany her to the hospital and see for himself how necessary it was that some one do something for these suffering youngsters. Small wonder that his kind heart too went out to these helpless little ones. In consequence, Harry H. Tammen announced on behalf of himself and his wife on Christmas Day in 1921 a gift of $100,000 to enlarge the Denver Children's Hospital.

Did Harry Tammen forget this hospital then? Did he feel that he had done enough? Absolutely not! Four years later, following his death, it was learned that he had bequeathed, with the full approval of his wife, one half of his estate—over $2,000,000—to form a permanent endowment for this beautiful institution so that no sick child in Denver should lack the best of hospital care because of poverty. From this trust fund has been provided improved equipment of the latest design, everyday needs for dozens and dozens of helpless children, many of them from destitute families.

In July 1934, Mrs. Tammen announced still another great gift, a new hydrotherapy unit for the treatment of paralytic and kindred diseases —a unit that would be devoted to the treatment of infantile paralysis—that dreaded disease, 95 per cent of whose victims have been children.

It was in 1887 that Dr. O. Medin proved that the crippling following this infectious disease was the result of damage incurred by the nerve cells of the spinal cord, which control the various muscles.

It was over twenty-eight years ago that the first serum for the treatment of infantile paralysis was made from a dead Austrian boy's spinal cord. Dozens of monkeys were used for experi-



ments by doctors in the Vienna laboratories and in our own Rockefeller Institute in New York City. They felt it was only reasonable that, if these monkeys recovered after the serum tests, they would be immune from infantile paralysis, and if children were given it, they would be immune also. In 1916, therefore, when the epidemic of infantile paralysis struck New York, hundreds of stricken children were given the serum in an effort to save them from a doom worse than death. There was high hope in the medical profession that this was the answer to the threat of infantile paralysis. Yet other doctors asserted they had proof that children whose spines they had simply tapped had recovered to a far greater degree than had those receiving the serum. But their observations were entirely ignored until through controlled living experiments it was proved that those receiving the polio convalescent serum were not immune from paralysis; nor did it save their lives. Scientists are still working to perfect a serum that will conquer this dreaded disease. Will they succeed? Again the answer comes, only time will tell.

It is small wonder that this new unit for the treatment of infantile paralysis and pediatric diseases was hailed with delight by all who knew of its opening, Feb. 16, 1936. Among the hundreds of congratulatory messages was a telegram from President Roosevelt, addressed to Mrs. Tammen: "On what must be for you a very happy day," he wired, "I offer sincere congratulations. Through your vision, generosity and unselfish devotion, provision has been made for the care of crippled children from all parts of the Rocky Mountain Region. Many thousands of our citizens will be grateful to you." And what person knows better than the President the value that these pools hold in the depths of their waters, since he has been helped so greatly in the past with treatments in the famous pools of Warm Springs, Ga.?

On my first visit to the hospital, Mrs. Cushman, the superintendent, took me first to see the largest pool in the unit. I saw gay, bright blue walls with windows covered with white Venetian blinds. At our feet the pool, which had performed seeming miracles, looked much like any other pool, bubbling with beauty. In this water, battles are waged for weeks, months —even years—to give dozens of children a fighting chance for lives free from crippling deformities. Near me in the water a little girl with big brown eyes set far apart in a pale little face, floating on her back with a rubber tube beneath her neck, smiled up into the face of her nurse who walked beside her.

"Is your head comfortable?" the nurse inquired as she slightly readjusted the tube beneath the little girl's head.

"It feels fine," the child answered.

In this pool of fresh water, which is kept at body heat, are exercise poles, plinth boards and a pair of transverse, adjustable walking bars. Underwater gymnastics are taught to the children so that it will be easier for them in time to move paralyzed arms and legs. Here in this water crippled little arms and legs frequently learn to move again! I commented on my thoughts to Mrs. Cushman.

"Of course, it isn't the water that heals," she said in response. "It has absolutely no therapeutic value. It's the heat and buoyancy furnished by it that do all the work."

Here in this pool a muscle which outside the water is completely paralyzed can be moved slightly and sometimes even freely, because the gravitational pull on the afflicted parts is decreased. In time, *(Continued on page 467)*

Harold M. Lambert

INFANT FEEDING

***Some questions which mothers frequently ask — and their answers given by* HAROLD C. TOOKER**

Why should I not take my baby off breast feeding and give him a formula instead? It is much easier and gives me more liberty.

Your baby will always do better on breast milk. There has never been discovered a completely satisfactory substitute for breast milk. Not only will the child develop more satisfactorily, but he will receive immunity to certain contagious diseases, if fed on breast milk, that no other food can give him.

Why are there so many different foods for infant feeding?

The perfect substitute for breast milk has never been found. Each type of artificial food aids in combating peculiar conditions and complications that occasionally arise in feeding babies deprived of breast milk.

Why is there less diarrhea in infants now than formerly?

The doctrine of clean milk has been so effectively preached that now, thanks to our milk commissions and boards of health, almost everywhere in the country clean milk is available for infant feeding. It was the infected milk that caused so many cases of diarrhea and such a high infant mortality in years gone by.

Why is it necessary to dilute cow's milk when feeding young infants?

Cow's milk was intended for the calf and not for the human infant. The calf can digest a more concentrated food than our babies.

Why boil the milk for some infants and not for others?

First the milk must be boiled for three minutes, if there is any question about its cleanliness, to kill the living bacteria. It is better to play safe than chance an intestinal infection. Secondly milk is often boiled to make the protein more digestible; this in turn will lessen colic and digestive pains. Boiling

the milk materially reduces the size of the protein curd making it more flocculent and thereby reducing the time that is needed for digestion in the stomach.

Why does my second baby not gain in weight as my first one did? I am giving the same formula for the same weight that was given for my first child?

Infants differ from one another just as adults do. Some lean persons eat vastly more than some stout persons. So it is with infants; some will gain well on 45 calories per pound of body weight whereas others require as high as 85 calories before they will make a satisfactory gain.

Do all infants need daily or weekly cathartics? When should I give a physic?

Daily or weekly cathartics are contraindicated in infant feeding. The muscles of the intestine will never do their duty and develop to do it so long as their work is done for them. Every infant can be fed so that the bowels will work normally. Occasionally a daily enema may be necessary until the baby is adjusted to his food. Give a physic only when the baby is suddenly taken ill with a fever. Your doctor will advise you.

Why is constipation a welcome thing in bottle-fed babies, especially those that have done poorly? Should not the stools of a bottle-fed baby be as loose as those of one on the breast?

The intestinal tract of the calf is much longer than that of a human infant; in order that the milk may be in the human intestines as long as it would remain in the intestines of the calf, it must go through the baby more slowly so as to be fully digested and give the baby full food value. The longer the food stays in the intestinal tract, the more water is absorbed from it. Therefore the stool of the bottle-fed baby will be firmer, more formed and more homogeneous than that of the breast-fed infant, also the stools will be fewer in number.

Why should baby be fed by the clock and wakened for his feeding if asleep?

Regularity in baby's routine is one of the secrets of proper development and of contentment for him. If the child is fed at proper intervals, the stomach is completely empty before the next feeding. This gives the organ a rest and allows the glands that secrete the digestive juices time to get ready for the next meal. Indigestion will invariably follow irregular feedings.

Does my baby need water between his feedings? If so, how and when shall it be given him?

The baby does not need water between his feedings. Whole cow's milk is 88 per cent water, and when this is diluted the percentage is greater. A normal child of 2 months will weigh between 10 and 10½ pounds and would receive about 35 ounces of fluid a day. This is over a quart of liquid for every 10 pounds of body weight.

Why add sugar to a cow's milk formula? Why not always use sugar of milk when doing so?

Cow's milk contains about 4 per cent sugar and mother's milk about 7 per cent sugar. Extra sugar must be added to make up this difference. Milk sugar when added to cow's milk is often too laxative for some babies. In its place a simpler sugar is used that is absorbed more rapidly and that is not so laxative.

Why is milk with a high fat content forbidden for my baby's formula? It is certainly richer than ordinary cow's milk, and I should think he would do better on it.

Certain cows give milk which is from 5 to 7 per cent cream, whereas ordinary cow's milk contains from 3.5 to 4 per cent and mother's milk 4 per cent. Milk that is too rich in fat content may also contain a fair proportion of stearin, one of the fats most difficult for the infant to digest. The milk from a mixed herd made up to 4 per cent cream is the best kind for feeding the infant. Many cases of fat indigestion are caused by rich milk alone. Change the milk, and the baby progresses without further trouble.

Do all babies need orange or tomato juice besides their milk formula?

They do. The citrus fruits and tomato are rich in vitamin C, which prevents scorbutus, or scurvy, and cow's milk is very poor in this vitamin. Mother's milk contains from two to three times as much of this vitamin as cow's milk, and cow's milk from four to six times as much as the usual infant food. All babies should have their diets reinforced with orange or tomato juice.

Never guess about or experiment with the baby's diet. Your doctor *knows*. Have him see the baby at regular intervals as he desires. It is the best insurance you can buy.

"The object of all child care and training is to make the child independent physically, mentally and emotionally. . . . Good habits for the baby are founded on regularity in eating, sleeping and elimination." These statements are taken from the radio section (page 450), where you will find some important "do's" for babies and "don'ts" for parents and much information on "Healthier Babies," a broadcast sponsored by the American Medical Association and the National Broadcasting Company, which will be heard April 27.

SUNDAY, MAY 1, IS MAY DAY—CHILD HEALTH DAY

TUBERCULOSIS UP TO DATE

***B. P. POTTER** discusses in this, the second article of his series, the predisposing causes of tuberculosis*

THE QUESTION most often presented to the physician by tuberculous patients or their relatives and friends is, "Doctor, how does one get this disease? You know there is no one in our family that has it. We are six in the family, and my brother is the only one that has tuberculosis. I just cannot understand it."

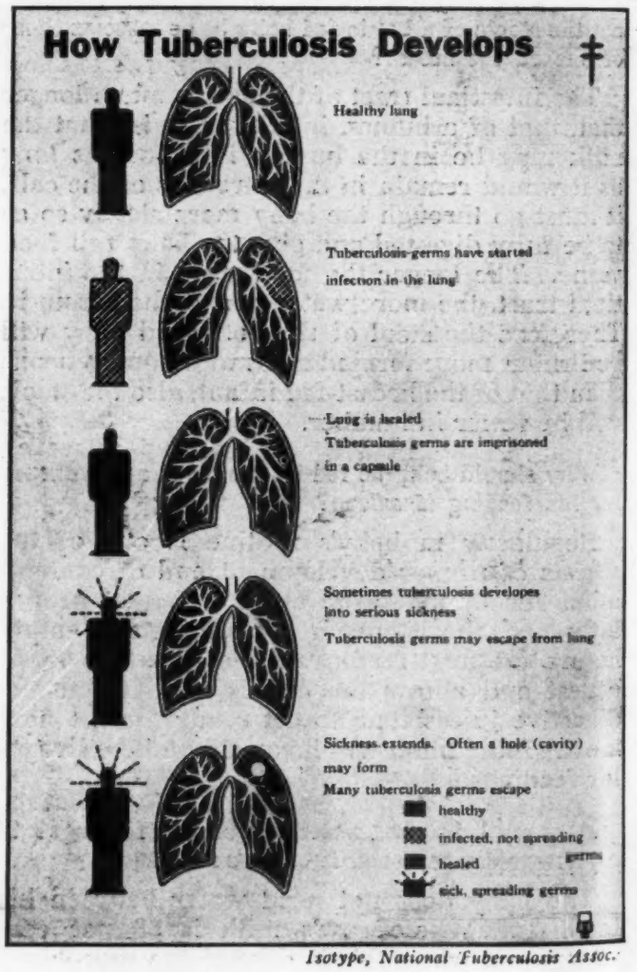
Many times this discourse is supplemented by something like this, "Doctor, do you think that the cold he had last winter turned into tuberculosis?" or "Do you think he has poor blood which caused his lung trouble?" or "Don't you think it is inherited?" Of course if tuberculosis exists or has existed in the family, the afflicted one usually accepts the slogan, "One case of tuberculosis comes from another."

These vague questions simply go to prove that the facts about tuberculosis, to put it mildly, are little known by the average person. They also reflect the ideas of the past as to the causation of tuberculosis, some of which have been discarded.

It will be well, therefore, to start the discussion of pulmonary tuberculosis by inquiring into its cause. One should not lose sight of the fact that the "germ theory" held at present is not one we have "come up against" accidentally. On the contrary, it is the outgrowth of centuries of research for the causative factor and of the experimental efforts of many in the latter half of the nineteenth century in allied subjects which ultimately led to the discovery of the tubercle bacillus as the specific agent.

What is the tubercle bacillus? Simply stated, it is a mass of living substance, shaped like a rod, ranging in length from $\frac{1}{12,000}$ to $\frac{1}{6,000}$ inch. It is obvious that these little bodies cannot be seen by the naked eye and that it requires special lenses capable of high magnification to be able to see them. In the microscope we have such a device, but even with it one must stain these rods with special dyes before they can be differentiated from other bacilli of similar size and appearance. They belong in the class of micro-organisms known as bacteria and are classed as plants. Under suitable conditions they reproduce rapidly, and by the special waxy capsule which envelops them they are capable of resisting many adverse circumstances. In spite of the smallness of their size the nature of their inner substance is known. In general it may be said that the tubercle bacillus is a one celled micro-organism, capable of living and reproducing. Its function is purely that of a parasite; that is, it lives and reproduces in the tissues of living animals, often causing irreparable damage.

Many more interesting things can be said of the tubercle bacillus, but to do this would be


How Tuberculosis Develops
Healthy lung
Tuberculosis germs have started infection in the lung
Lung is healed
Tuberculosis germs are imprisoned in a capsule
Sometimes tuberculosis develops into serious sickness
Tuberculosis germs may escape from lung
Sickness extends. Often a hole (cavity) may form
Many tuberculosis germs escape
healthy
infected, not spreading
healed
sick, spreading germs

Isotype, National Tuberculosis Assoc.

Wisconsin Anti-Tuberculosis Assoc.

ONLY WITH SPECIAL LENSES OF THE MICROSCOPE CAN THE REAL APPEARANCE OF THE TUBERCLE BACILLI BE SEEN, AS THEIR SIZE RANGES FROM 1/12,000 TO 1/6,000 INCH IN LENGTH. EVEN WITH THIS AID, A SPECIAL STAIN MUST BE INTRODUCED ON THE SLIDE TO BRING THEM OUT CLEARLY, AS AT LEFT.

to carry the discussion far from the theme of our subject. The more practical question and one of immediate concern is, How does the tubercle bacillus enter the body? As simple as this question appears, it has provoked a debate which has been going on for almost half a century. In spite of numerous experiments and careful practical observations the answer is not yet forthcoming.

I shall not endeavor to give a critical discussion of the various theories of the mode of entry of the bacillus into the body. The chances for contact with the tubercle bacillus are numerous. In fact, it was previously held that all individuals who reached adult life showed evidence of having been infected by tubercle bacilli. While recent investigations prove that this belief is unwarranted, nevertheless it is a fact that more than half the adults and practically all above the age of 50 have at some time or other been infected. Yet in spite of this large number of infected individuals, only 1 out of every 100 actually becomes diseased. The question naturally arises, What is the difference between infection and disease? To understand this difference, it is necessary to visualize in the

mind's eye what happens when the tubercle bacillus enters the body.

In a person who comes in contact with the bacilli for the first time, the tissue cells wherein the bacilli lodge react as to any irritant by an effort to ward off the bacilli. In this effort the tissue cells are aided by certain cells from the blood which are attracted to the site. These cells engulf the tubercle bacilli and soon form a small mass known as a tubercle. If the number of tubercle bacilli that enter the body are not too great and if they are not too noxious, this tubercle gradually shrinks to a little spot that can often hardly be seen or may entirely disappear. The development of this tubercle, or in most cases more than one, more often than not takes place without the knowledge of the infected person, so that most persons are not aware of the changes that go on within their bodies when the tubercle bacilli enter. But more than this happens, for during the formation of the tubercle many bacilli are destroyed, resulting in the extrusion of certain products to which the body cells become sensitive. One of these products is known as tuberculin and is used in the skin test for detecting infection. It is thought by some that this sensitiveness to tuberculoprotein (tuberculin) is responsible for the marked inflammatory changes about the tuberculous lesions when a second infection takes place and therefore serves a detrimental purpose. To compensate for this, as it were, the individual becomes endowed at the same time with a greater capacity to overcome a second attack by the tubercle bacillus.

As previously stated, in most persons the tubercles that form when one is first infected either entirely disappear or become shrunken to small spots, which later may or may not become a stonelike mass by the deposition of certain lime salts within them.

A certain number of individuals, however, do become sick during the first infection; but the majority of them, as a rule, get well and leave no more evidence of their infection than is seen in those in whom the tubercles form without their knowledge. These individuals may then go on through the rest of their lives without ever breaking down with tuberculosis or, as occurs in certain instances, they may become sick in later life.

The second infection, known as superinfection or reinfection, results in changes in the lungs which, as a rule, are more destructive, do not heal as readily and almost universally leave permanent evidence of their presence. It is this reinfection, which almost always reveals itself by certain subjective and objective signs, that is spoken of as tuberculous disease. In this class also belong the extensive childhood infections, which are accompanied by symptoms that are identical with those which occur in the adult type.

The question that logically follows is, Why do most of those who become infected get by? Or perhaps another way of stating it is, Why do some individuals previously infected acquire pulmonary tuberculosis as we know it? About this question a great deal of controversy exists. The fact of the matter is that there is no really satisfactory explanation for this. It is thought, however, that poor economic conditions, certain unhygienic surroundings of the home, contact with active cases of tuberculosis and possibly hereditary factors predispose one to tuberculous disease.

It can readily be seen that in cases in which the earning capacity of an individual is less than it takes to meet the ordinary requirements of life, the individual is likely to be undernourished. Undernourishment is thought to lead to a breaking down of the general resistance, and this may then lead either to a new infection or to a breaking down of the first infection and reawakening of the old process. In the same manner, surroundings at home, such as poorly ventilated rooms and overcrowding, may serve as contributing factors. From time immemorial it has been thought that certain individuals are born with a makeup which makes them especially prone to tuberculous infection.

While it is true that there are a small number of cases on record in which the mother infected her offspring before birth, no proof has been brought forward to show that tuberculosis can be passed on from one generation to another in a true hereditary manner. Yet there are still those who believe that while tuberculosis is not hereditary a certain tendency to become an easy prey to the disease may be passed on from one generation to another if either or both of the parents are diseased.

While the foregoing factors may play a certain part in the bringing about of tuberculous disease, I cannot help but feel that their part has been overestimated. We are still faced with numerous examples of tuberculosis in individuals whose economic conditions or hygienic surroundings and family history could not possibly play a part in the evolution of their disease. This brings us to the final factor of contact to be considered. The overwhelming majority of afflicted individuals give the history of having been in contact more or less intimately for a longer or shorter time with an individual who has had some lung trouble. Often the contact is with one who is supposed to have bronchitis, asthma or just a cigaret cough. Careful inquiry, however, and at times x-ray checkup of such contacts reveal cases of pulmonary tuberculosis. I am obliged, therefore, to stress that the most important predisposing cause is association with some individual who has an open case of tuberculosis.

[NOTE.—In the June issue, Dr. Potter will discuss manifestations of tuberculous disease.]

FOOT CARE for the MOTHER-TO-BE

By A. OWEN PENNEY

AT THE BEGINNING OF EACH DAILY REST PERIOD, WHICH KEEPS THE SWELLING OF HER FEET AND LEGS DOWN, SHE MAY INDULGE IN THE LUXURY OF A FOOT BATH.

IT IS the custom today, and a wise one, for the expectant mother to place herself under the care and guidance of her obstetrician early in her pregnancy. By so doing she not only preserves her own health but also insures the maximum of favorable circumstances for the development of her baby. This being a day of preventive medicine, every little detail is given thoughtful consideration. No longer are obscure symptoms dismissed as being merely a part of the price to be paid for the baby. Everything is looked into, its cause determined and, if possible, removed.

A phase of preparation for motherhood which has only recently begun to receive appropriate attention is the woman's feet and limbs. Swelling and pain in the lower extremities have always been regarded as natural but unavoidable, but the modern obstetrician knows that this is not entirely true, that much of it can be prevented. He knows, too, that daily exercise is one of the essentials to a normal delivery and that the lack of it is a contributory cause of some of the difficulties, not to say the fatalities, of the labor period. Without exercise it is virtually impossible for the muscles of the abdomen to function properly at the critical moment. Consequently, in order to keep his patient active the physician advises her to seek the services of a podiatrist, or chiropodist, and to follow his advice up to and immediately after her confinement.

As the weight increases, the strain on the feet and legs is correspondingly greater. At the same time the pressure in the pelvis begins to hinder the free passage of the blood stream through the femoral vessels down into the legs and back again. The combined result of all these various factors is congestion, swelling and a feeling of heaviness in the legs and feet together with pain and excessive fatigue. At first the tendency is to stop all exercise, particularly walking, and to seek relief in the loosest and roomiest shoes to be found, which, too often, are old discarded

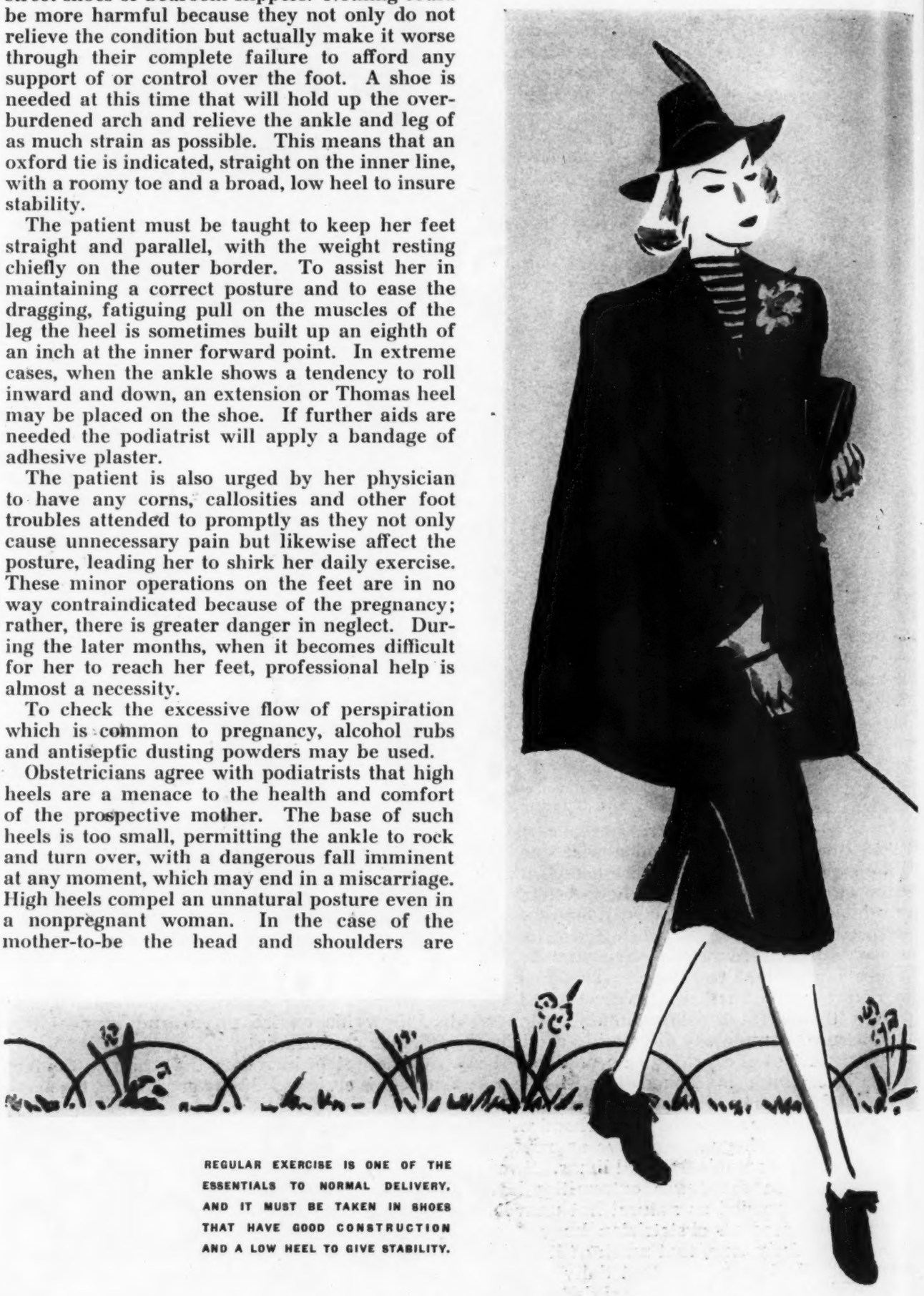
street shoes or bedroom slippers. Nothing could be more harmful because they not only do not relieve the condition but actually make it worse through their complete failure to afford any support of or control over the foot. A shoe is needed at this time that will hold up the overburdened arch and relieve the ankle and leg of as much strain as possible. This means that an oxford tie is indicated, straight on the inner line, with a roomy toe and a broad, low heel to insure stability.

The patient must be taught to keep her feet straight and parallel, with the weight resting chiefly on the outer border. To assist her in maintaining a correct posture and to ease the dragging, fatiguing pull on the muscles of the leg the heel is sometimes built up an eighth of an inch at the inner forward point. In extreme cases, when the ankle shows a tendency to roll inward and down, an extension or Thomas heel may be placed on the shoe. If further aids are needed the podiatrist will apply a bandage of adhesive plaster.

The patient is also urged by her physician to have any corns, callosities and other foot troubles attended to promptly as they not only cause unnecessary pain but likewise affect the posture, leading her to shirk her daily exercise. These minor operations on the feet are in no way contraindicated because of the pregnancy; rather, there is greater danger in neglect. During the later months, when it becomes difficult for her to reach her feet, professional help is almost a necessity.

To check the excessive flow of perspiration which is common to pregnancy, alcohol rubs and antiseptic dusting powders may be used.

Obstetricians agree with podiatrists that high heels are a menace to the health and comfort of the prospective mother. The base of such heels is too small, permitting the ankle to rock and turn over, with a dangerous fall imminent at any moment, which may end in a miscarriage. High heels compel an unnatural posture even in a nonpregnant woman. In the case of the mother-to-be the head and shoulders are



REGULAR EXERCISE IS ONE OF THE ESSENTIALS TO NORMAL DELIVERY, AND IT MUST BE TAKEN IN SHOES THAT HAVE GOOD CONSTRUCTION AND A LOW HEEL TO GIVE STABILITY.

already pulled back to maintain equilibrium, and the high heel accentuates this position. The result is a tightening of the abdominal muscles, causing pain all through the pelvic region.

To keep the swelling of the feet and legs within bounds the patient should have definite rest periods during the day. At the beginning of the rest period she may indulge in the luxury of the contrast bath. The feet are first immersed in cold water for half a minute, then in hot water for two minutes. This may be repeated as often as desired. Next comes a brisk rub with a coarse towel, either by the patient or some one else, followed by a light massage as far as the knee, provided there are no varicose veins; then to bed, flat on the back, with the feet elevated to the height of two pillows.

A daily regimen of this sort will keep the lower extremities in a much more comfortable condition throughout her term and, other things being normal, will permit her to exercise and perform light tasks about the house almost up to the last hour.

After his lordship has arrived and while the mother is still in bed, careful attention to her feet and legs must be continued. Lying there with her feet tilted downward at an angle permits the muscles of the calves to relax and contract. When she begins to walk again she will experience severe pains which may run up the legs to the small of the back. To avoid this the nurse should be instructed to massage the feet and legs every day and to flex the foot on the leg, bending it at the ankle and gently forcing it upward until it forms a sharp angle with the leg so as to stretch the muscles back to normal. As soon as the mother is able she should do this for herself, making the foot do its own work by voluntary muscular action.

When the bed is left there will be a temptation to put on bedroom slippers. This should be discouraged; for, since the muscles are still flabby and weak, it may induce strains that will require many months of treatment. Put on the oxford ties at once, and use only this type of footwear.

From now on, the care of the baby, if it is the first one, will be a job the like of which the mother has never known. She will no longer be going about in an upright position all day. She will be stooping and bending and getting into more queer positions than she ever imagined. The baby must be bathed; his clothing and bedding must be looked after; his food must be prepared, and all this means many hours of genuine work. Unless she is extremely careful this unwonted toil will bring on "occupational" disorders of the feet and legs. And this is potentially serious because the care of the baby, instead of becoming an increasing joy will be only a source of pain and dread which will inevitably reflect itself in the little fellow's disposition. No child can be sweet and sunny if his mother is irritable and impatient. For the baby's sake, then, it will be advisable to cling to the oxford tie for at least two thirds of the day—the toe broad and roomy, and the heel as low as can be worn without a sensation of pulling in the legs. There should be a tongue and not less than five eyelets so that the shoe can be laced firmly at the instep. This is to hold the foot in its proper place.

Babies require many sacrifices; but the sacrifice and the toil are easier if the mother keeps herself physically fit. To this, nothing contributes so much as careful attention to the feet and their coverings.

"On the Mother's Health Depends the Health of the Infant."

What kind of clothing should the expectant mother wear? How should she regulate her diet? What exercise should she take? How soon and how often should she see her doctor? These and many other questions will be answered in the broadcast, "Healthier Mothers," which will be given May 4 under the auspices of the American Medical Association and the National Broadcasting Company *(see page 451)*

Sunday, May 8, Is Mother's Day

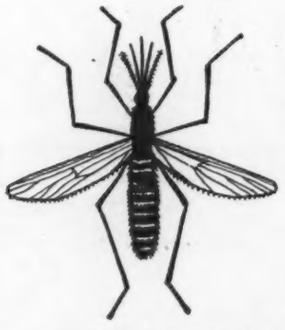
PARASITE TRICKS: III

No longer are the "tropical" diseases geographically confined. The blood worms bear testimony that disease follows the main travel routes, says

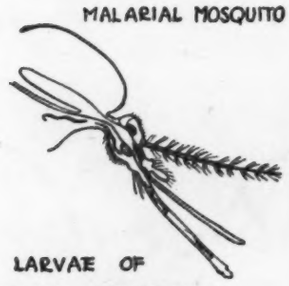
GEORGE A. SKINNER

THE VERY THOUGHT of worms in the blood gives one a sort of shivery feeling. We may be relatively calm when we think of worms in the intestines or even of worms in the muscles, but right in the blood, the very center of our existence, this is much more startling! Yet there are a number of worms that do live in human blood, and parasites of other forms that inhabit the same region. We may not be at all conscious of their presence, and they may exist there for a long time without producing any symptoms. But this is not always the case, and sometimes the consequences of their presence may result in serious body changes. Those who live in the temperate regions are likely to think of most of these blood worms as inhabitants of the tropics, and they have usually been classified among the causes of "tropical diseases."

Ideas of what constitutes tropical disease have undergone a radical revision during late years. There used to be a sharp dividing line between tropical and other diseases, but increased knowledge and observation of the diseases once classed as tropical now make it clear that the term is at best only relative, and most of the tropical diseases only await proper methods of spread before they are ready to extend their territory, sometimes far into the north temperate zone. It was only a few years ago that we spoke of tropical dysentery, meaning the amebic form, and thought of it as just that, "tropical." But this narrow limit did scant justice to the ability of the ameba to migrate, and now we find amebic dysentery in almost



MALARIAL MOSQUITO



LARVAE OF FILARIA BANCROFTI IN THE PROBOSCIS OF A MOSQUITO.

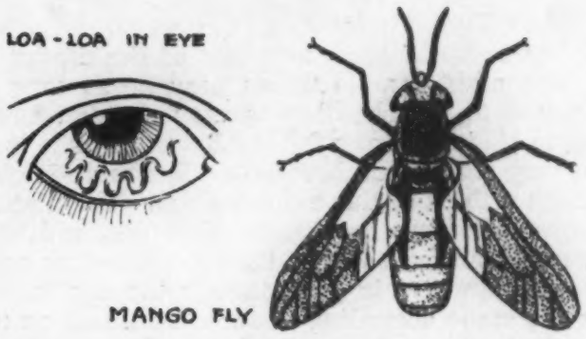
SIR PATRICK MANSON (1844-1922) IN HIS EXTENSIVE EXPERIMENTS ON TROPICAL DISEASES, DEMONSTRATED THE CONNECTION BETWEEN A TINY BLOOD WORM AND ELEPHANTIASIS.

every part of the globe, even to the subarctic lands. It may become epidemic in any city where insanitary conditions develop from any cause. Therefore any disease now described as tropical may, through the tricks the parasites play on us, at any time become widely spread over the earth's surface. Increased speed of travel and ease of intercommunication among nations have done and are doing some curious things in the way of spreading diseases.

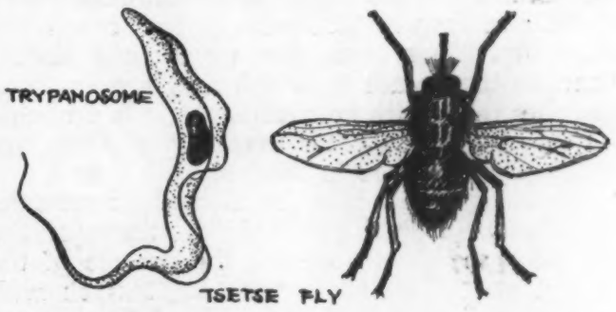
From the earliest time, disease has always been observed to follow the main travel routes, and this is no exception today. If our studies take us into territory that at first thought does not seem to concern us, the reason thereof is that parasites are no respecters of boundaries, either geographic or climatic; and a knowledge of some of the parasite tricks from the warmer lands may assist us when we travel, as well as when we are at home.

If we were traveling in certain lands, we might be much surprised to see a man with one leg like the average but the other, two or three times as large, so big in fact that he could move it only with difficulty; or we might see one who had both legs unusually enlarged and could hardly move at all. Again we might see a woman with what looked like a football or melon around each foot. Such cases are observed in many localities and are commonly called elephantiasis from the fact that an extremity takes on the form not unlike that of an elephant leg. Certainly it is startling to the observer when he first sees such deformities, and it is as uncomfortable for the victim; though fortunately there is rarely any disability other than the weight.

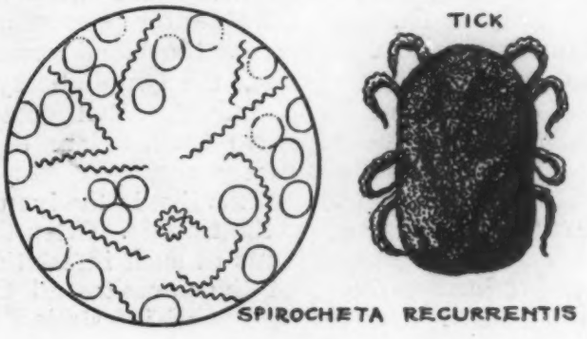
These enlarged legs, for it is principally the legs that are involved, were described many years ago by Indian and Arabian wise men. The disease was confused with leprosy, and hence it was not recognized as a separate one until modern times. Usually it was called elephantiasis arabum and sometimes Madura foot, while the real leprosy as we know it today was called elephantiasis grecorum. The tangle began to be unraveled about the time of the close of our Civil War; and from then on, much work has been done to assist those with this distressing condition. The active cause was found to be blood worms, and the first adult worms were definitely seen by an observer named Bancroft in Australia (1876). Hence the worm is named Filaria bancrofti, in description of its hairlike form and in recognition of its discoverer. Another worker, named Wucherer, had found the larval form of the worm shortly before this time, and so the cause of the disease is often called after these two early investigators, Wuchereria bancrofti. As the name filaria (hair) is so descriptive of the size and shape of the parasite, that name is still the one more commonly used.



These blood worms are found over a large part of the world, and while their distribution is mainly tropical, they have been found abundantly in more northern regions, from about 41 N. latitude to 28 S. This includes a large portion of the inhabited lands, well up into the southern part of Europe, Asia, much of Africa, the southern part of North America and a fair part of South America. The disease is prevalent in many lands; but the tropical islands and some parts of China and India seem to have the most cases. They are found in our own West Indies and even in some parts of southeastern United States.



The cause of elephantiasis is the tiny blood worm mentioned, but by no means all the people who have these worms in the blood have the disease. It was Dr. Manson, who did so much in the study of tropical diseases in the latter part of the last century, who demonstrated the connection between this blood worm and elephantiasis and showed how it was transmitted by mosquitoes. Here is another instance of definite parasitic tricks played on us. The filaria cannot complete its growth without the help of the mosquito, nor could it get from its birthplace to a proper host without the mos-



quito. The life cycle of the worm therefore seems to be built around that of the mosquito.

The adult female filaria may be as long as from 3 to 4 inches but is very slender, about 1/60 to 1/70 inch (from 0.2 to 0.3 mm.) as she lives in very small lymph vessels. The male is only about a third of those dimensions. The mature worm produces thousands of young, and they seem to be born rather than produced as eggs. Really they are in eggs, though the egg "shell" is not made according to our usual ideas on the subject. There is a delicate membrane around the worm, and within this membrane the larva is quite active. Soon after they leave the parent, most of the young pass into the blood stream. And here another curious trick is observed. It is the object of these tiny parasitic worms, now free in the blood, to be sucked up by mosquitoes and thus prolong their own lives. As the mosquitoes they are interested in do not fly during the day, there appears to be no use of wasting energy circulating all during the day, so they retire to the deeper organs of the body. When night comes on, they become active and keep as close to the surface of the body as possible so that they will be handy when the mosquito bites. There are millions of them, but only comparatively few reach the mosquito. They can live for a considerable time, as the sheath in which they are enclosed supplies them with nourishment. It is probable however that the great majority of them are gradually destroyed in the body.

On being taken into the mosquito's stomach the sheath is quickly dissolved. Some of the worms are passed out with the excreta of the insect, but others penetrate the stomach wall and migrate to the chest muscles. Here rapid changes take place. They grow longer and develop some of their more important organs. Soon they molt, that is, they discard the skin; they grow in length and then migrate to the mosquito's head, ready to slide down the long feeding apparatus. The time spent in the mosquito varies from about two to six weeks. Then when the mosquito bites, these mature larvae slide down the proboscis on to the skin of the mosquito's victim. They are very active and do not even bother to use the hole already sawed through the skin by the mosquito but drill one of their own. Another curious thing is that a pair usually travel together and enter the body at the same time. After penetrating through the skin, they enter the blood vessels and travel until they reach the lymphatic system, where food is abundant, as it comes directly from the digestive tract. Here they develop, mate and produce young.

It is the fact that the worms live in the lymph glands which may cause the trouble. Often the patient shows no symptoms of such infestation but produces millions of the parasites all the time and may be the source of infestation to others, similar to a typhoid carrier. But more often the obstruction caused by the presence of the adult worms, for the male and female live together, interferes with the circulation, and the part begins to swell. Usually it is the leg, as we have seen, but it may be an arm, the genitals or even the internal organs. After this swelling has been present for a time, the parts tend to become hardened. Infections may take place, abscesses form and produce serious systemic symptoms. Often there is practically no reaction, and it is the weight of the part that produces the disability.

No certain remedy has been found. It is hoped that some of the newer chemicals that are being produced will eventually be found to destroy this parasite. Surgical procedures are sometimes necessary to make life possible, but many patients live for years with some part enlarged and often manage to get around with astonishing ease. One young man was able to take an active part in many of the sports of his companions, though one leg was fully three times the size of the other. He ran much as would a person with a wooden leg but managed the weight with surprising skill.

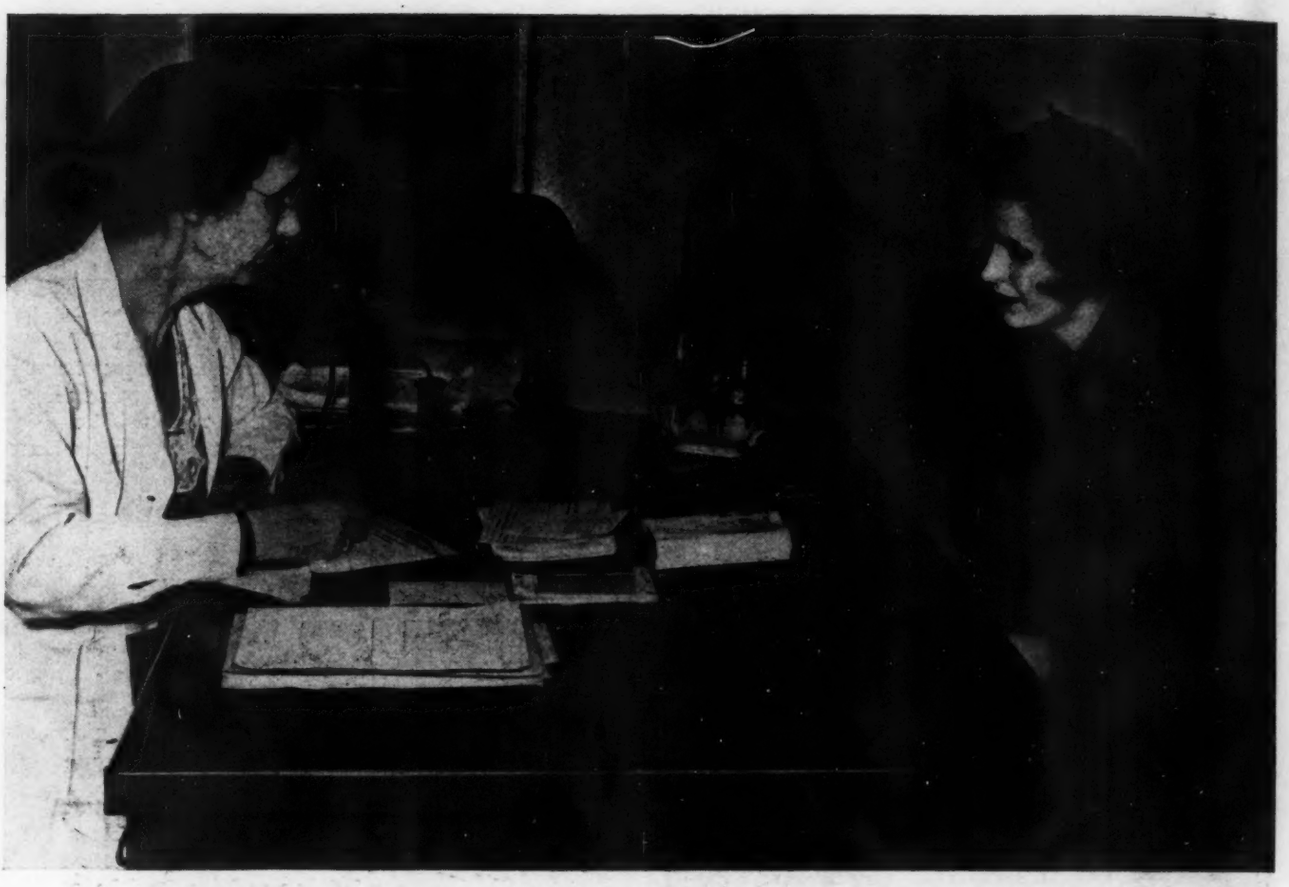
The connection of mosquitoes with this disease is another evidence of the need of constant warfare on these insect enemies. Where efficient mosquito control is maintained there is almost no chance of such infestations occurring.

There is another blood worm similar to Filaria bancrofti which is now of fairly wide distribution in Africa and in many of the islands of the Pacific; as these islands are constantly attracting more and more tourists, infestations with this worm are not unknown in this country. It is called most commonly Loa loa, though it has several other names, one, Filaria oculi humani, being quite suggestive of its habit of appearing in the human eye at times. This worm is about the same size as the bancrofti, but it is usually dependent on the mango fly for its existence and transmission, although possibly mosquitoes may act in the same capacity as the fly. This has not been conclusively demonstrated so far. The life history is almost identical with that of Filaria bancrofti, except that a fly sucks the blood in place of the mosquito, and the parasite develops in the fly's body. But the curious thing about it is that this parasite has learned to be in the surface blood in the daytime instead of at night, as the fly is active only during the day. The process of development is almost identical; and when the worm is mature enough to pass on, it migrates to the fly's head and like its cousin slides down the proboscis and quickly penetrates the human skin. It does not produce any known symptoms, but it is exceedingly annoying to have such a worm suddenly appear under the surface of the skin and then watch it migrate around. There *(Continued on page 448)*

The BIRTH OF A BABY

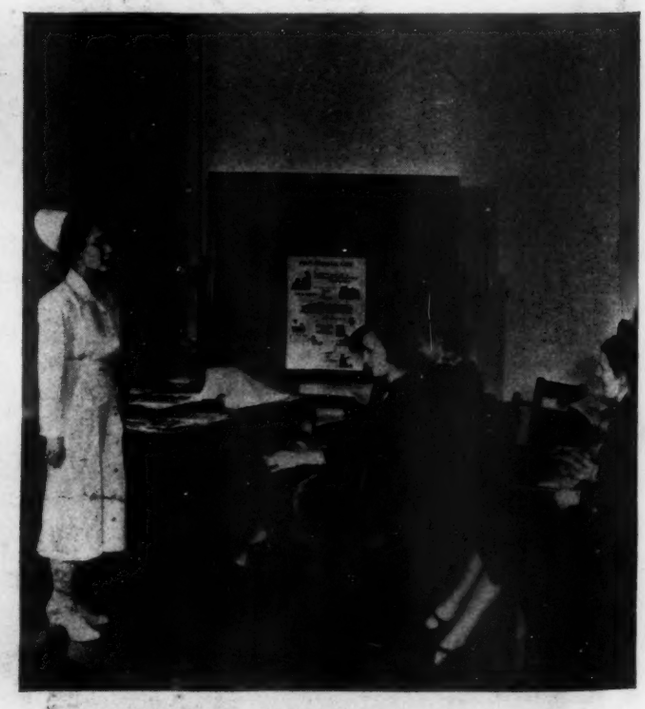
Modern Obstetric Care as Practiced in the Chicago Lying-In Hospital

Wallace W. Kirkland.



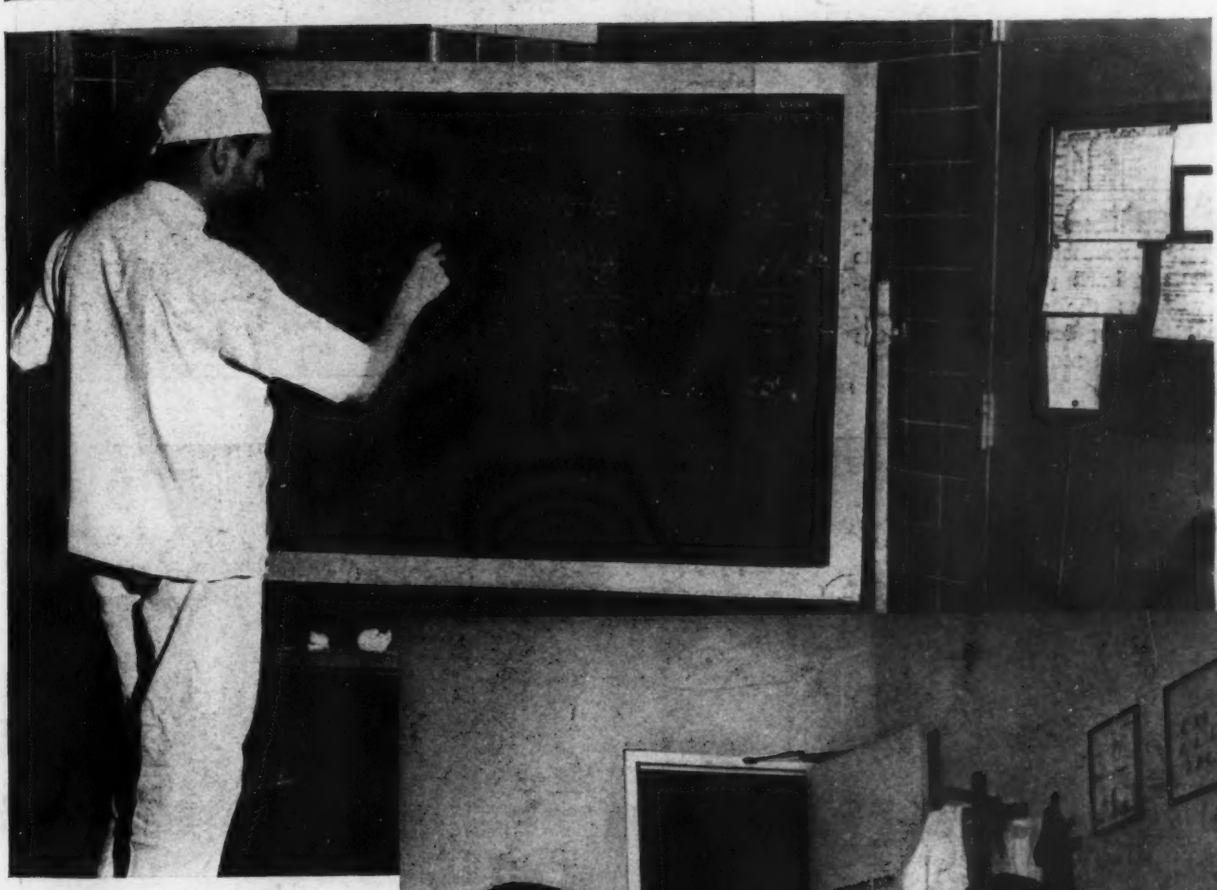
AS SOON as the mother knows or thinks she is pregnant, she should go to her doctor or find an organization that will help her find a doctor. Here, problems will be discussed—plans for management of home responsibilities, hospital or home delivery, budgeting possibilities and arrangement for doctor's examination and advice.

THE LABORATORY plays an important part. Urinalysis reveals trouble with the kidneys, and examination of the blood gives evidence of anemia and one of the venereal diseases.



MOTHERS' CLASSES give opportunity for discussion of exercise, diet, clothing, general hygiene, supplies and equipment needed for the coming baby and possibly a home delivery.

A THOROUGH EXAMINATION is made by the doctor. It includes measurements to ascertain whether the birth passage is of normal size. Follow-up during the course of pregnancy is also requisite for proper care.

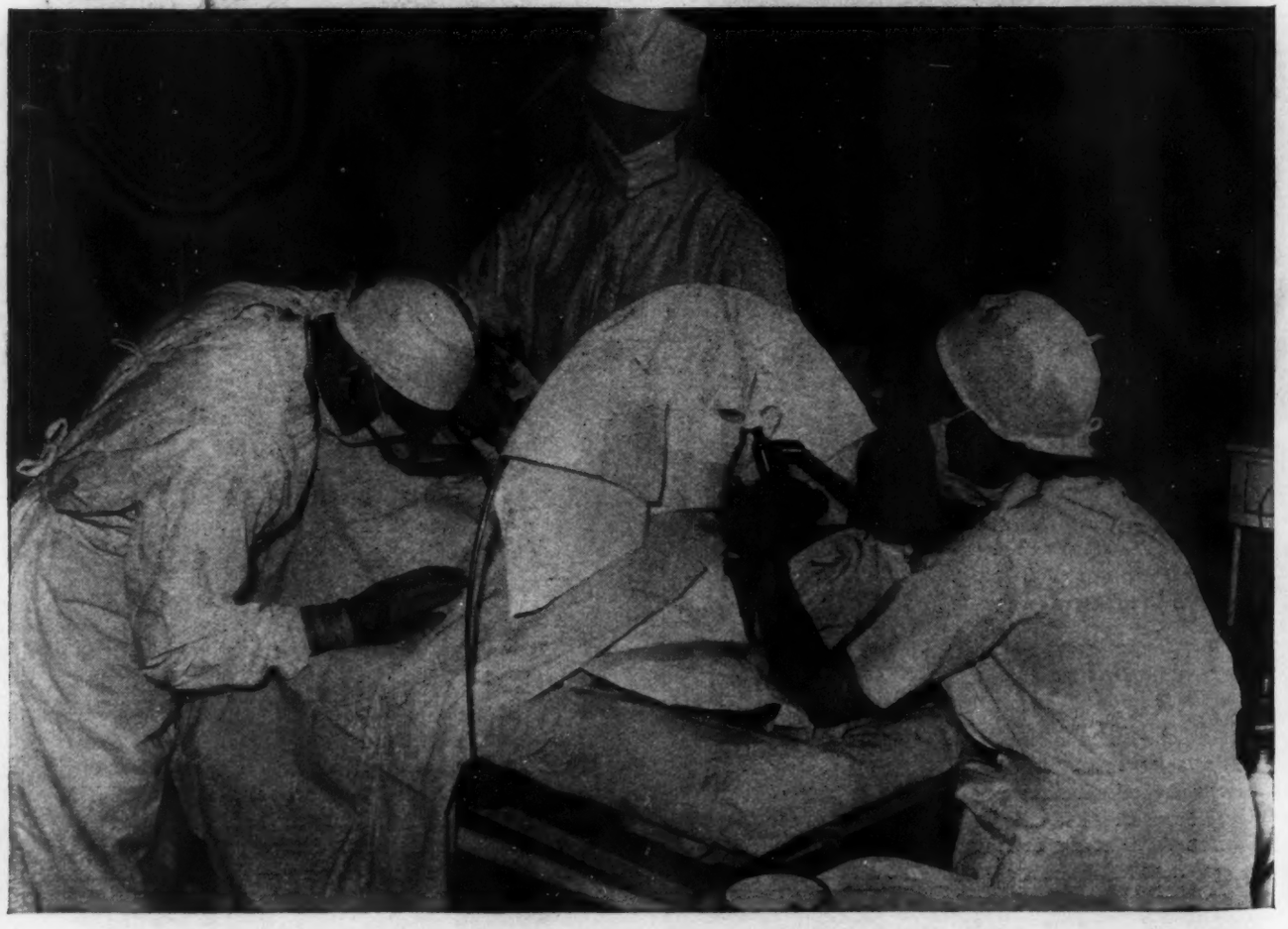


BEFORE THE BABY COMES, doctors and nurses are constantly watching and helping. Continuous records of progress are kept.

THE HUSBANDS' ROOM, where misery loves company, is reserved for restless prospective fathers. This is the birthplace of the doctor's favorite quip, "We've never lost a father."

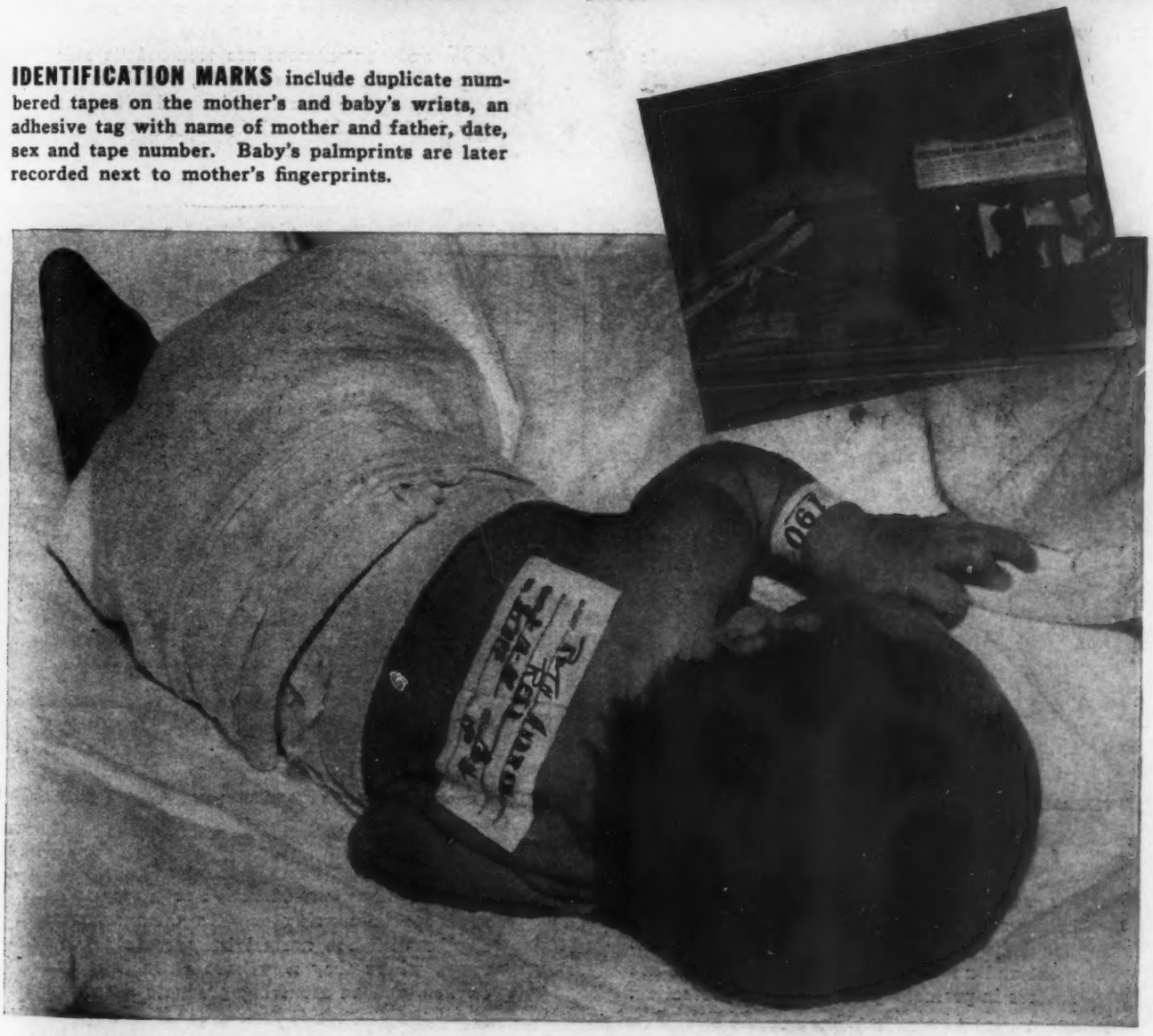
ON THE WAY from the labor room to the birth room—before long now the baby will be here. In the best of modern hospitals, the woman in labor occupies a single room during the major portion of the time and is taken to a specially equipped room for the actual delivery.

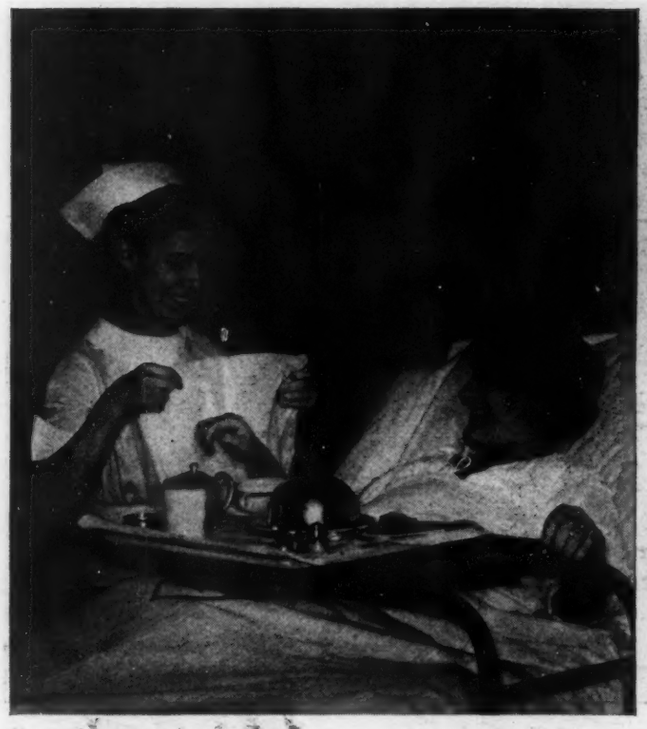
THE DOCTOR listens to the baby's heart beat. Anesthetic takes away the edge of very hard pains. The anesthetist watches the mother carefully, and the attending doctor observes the condition of both mother and baby.



IMMEDIATELY AFTER BIRTH, drops of medicine are put in the eyes to prevent the possibility of blindness due to bacteria which may have been picked up during the time that the baby was traveling through the birth canal.

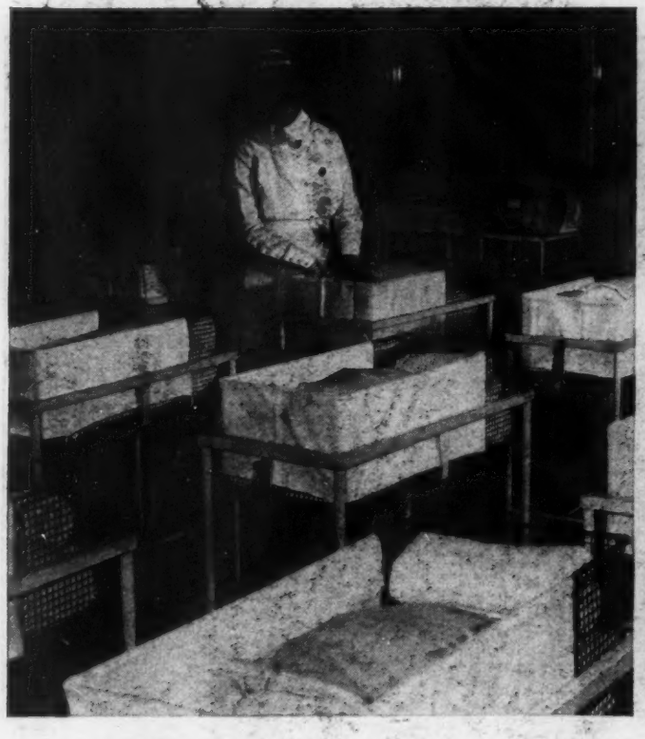
IDENTIFICATION MARKS include duplicate numbered tapes on the mother's and baby's wrists, an adhesive tag with name of mother and father, date, sex and tape number. Baby's palmprints are later recorded next to mother's fingerprints.





HOSPITAL CARE following delivery affords the needed rest, nourishing food, fresh air and good nursing care and frees the mother from domestic responsibilities.

REST and contentment are tremendous aids to production of breast milk, which is of vital importance to all babies and often the only food on which a baby may grow.



NO VISITORS may go into the nursery, for babies are peculiarly susceptible to infection. Specially trained nurses, individual equipment and no contact between the babies are factors in promoting a program of protection.

BABIES born prematurely or those who need special nursing to give them an even chance with the normal baby come to this room, where they may have extra heat and oxygen, and an attending graduate nurse.

LEARNING to care for the baby is one of the most important courses of instruction any mother can take. How to weigh, bathe and dress the baby, how to prepare a formula, how to care for his skin and hair and how to keep him healthy and happy are subjects which claim her closest attention in this hospital class.

REGAINING STRENGTH rapidly, the mother and the proud father, accompanied by the new baby, start for home. The instructions they have received will enable them to continue the best possible care for the baby in the important early days at home.

A RETURN VISIT to the doctor is almost a form of insurance, for here a careful check-up is made to determine the baby's weight, growth and general health and the condition of the mother. Advice is given about artificial feeding, if necessary, and about questions which may have arisen in the mother's mind about the baby's bath and other features of the baby's care.

Home Delivery Service

BAGS OF SUPPLIES are made ready for home calls and the delivery of babies in the home. This equipment must be proper and sufficient to prevent infection and cope with emergencies. Hospitalization is advisable for most complications.

"PUT THE KETTLE ON, and we'll be there by the time the water is hot." These telephone instructions having been given, doctor, attendant and nurse are ready to start out in answer to a call.

THE BASIC PRINCIPLES of good delivery care must be followed in the home as well as in the hospital. Equipment is laid out on the kitchen table; a kettle of warm water is on the stove, and the nurse arranges the necessary clothes for the baby. Supplies at hand (see picture below), the doctor and the nurse watch the progress of the patient carefully, frequently counting the baby's heart beats and the mother's pulse.

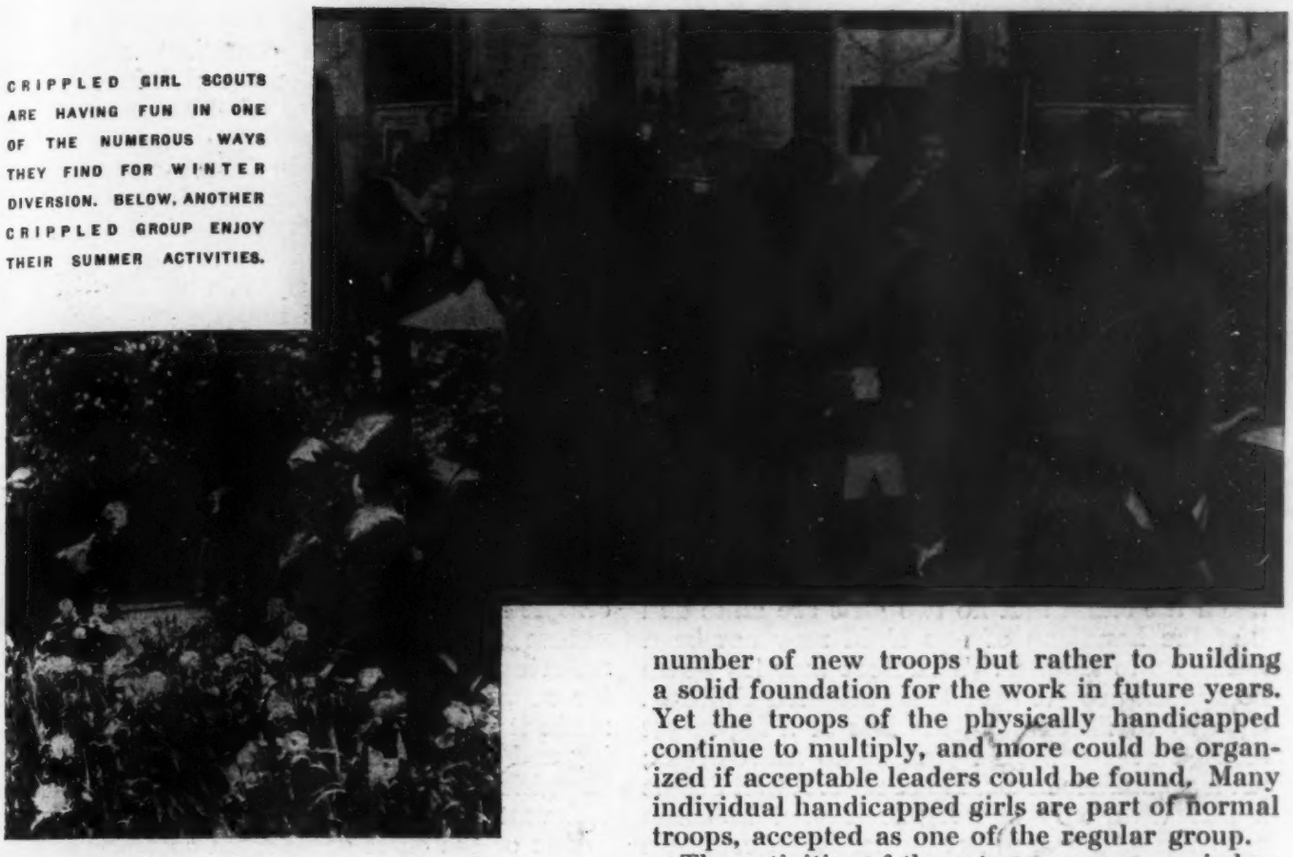
THE HANDICAPPED CHILD

By ANNE L. NEW

The handicapped child has a right
To grow up in a world which does not set him apart . . . which welcomes him exactly as it welcomes every child, which offers him identical privileges and identical responsibilities.
—*The Child's Bill of Rights.*

A BILL OF RIGHTS is a splendid thing, but it attains reality only when it is worked out in painstaking, day-by-day practice. How can we help the child who is blind or deaf or crippled to be a happy and useful citizen in the community? Suppose a little girl has discovered that there are physical compensations for physical handicaps—compensations such as crutches and braces and books in braille—how shall she discover the mental compensations? How shall she, in short, overcome the psychologic hazard of feeling "different"? There are many answers; none, perhaps, is complete in

TWO PUPILS AT A SCHOOL FOR THE BLIND WHO ARE MEMBERS OF A TROOP OF GIRL SCOUTS FOR BLIND CHILDREN TAKE PART IN A DRAMATIC PRESENTATION ON THE SCHOOL GROUNDS.



CRIPPLED GIRL SCOUTS ARE HAVING FUN IN ONE OF THE NUMEROUS WAYS THEY FIND FOR WINTER DIVERSION. BELOW, ANOTHER CRIPPLED GROUP ENJOY THEIR SUMMER ACTIVITIES.

itself, but each offers its contribution to the whole picture.

Back in 1917 a Manhattan school teacher wondered whether membership in the recently formed Girl Scout organization might not help crippled girls to find themselves as part of a social group. She investigated, and in that year the first recorded troop of physically handicapped Girl Scouts was formed. The national activity which has grown from this small beginning is exciting because it deals with that most exciting of all materials, youth and its potentialities. It is heartening to those who want to lighten the burden of these little children, because the program makes no distinction between the crippled and the so-called normal child. In Girl Scouting every girl can work for the same ranks, join in many of the same activities and feel herself a proud part of a constructive international movement. She has the thrill, new to many physically handicapped children, of feeling that she, too, can be useful and help others.

Since those beginnings in 1917 the growth of interest in this type of help for physically handicapped children has been steady and sure. Troops have sprung up in response to local needs. The Girl Scouts feel keenly, however, that no interested group can do work of this kind without the most careful preparation. The national organization of the Girl Scouts has not bent its efforts toward increasing the number of new troops but rather to building a solid foundation for the work in future years. Yet the troops of the physically handicapped continue to multiply, and more could be organized if acceptable leaders could be found. Many individual handicapped girls are part of normal troops, accepted as one of the regular group.

The activities of these troops are as varied as the needs of the children they serve. Men and women who want to bring the fun of scouting to crippled children have found that the Girl Scout program is based on the principle of free choice and offers so many fields of activity that these children can choose subjects suited to their ability, without feeling that restrictions are forced on them or that the choice need necessarily be dictated by their handicaps. In general, where the children show real physical achievement the incentive of group approval is a spur to further gain. They adjust better in "getting along with people," and they find the self confidence that comes of making real contributions to group life, because the Girl Scout code stresses service for others by handicapped and normal alike. The physically handicapped children respond eagerly to such a challenge.

Deaf girls make up the largest group of these physically handicapped troops. They are among the keenest of all Scouts. Sometimes the friendly atmosphere of Girl Scouting produces results that other means had not yet accomplished. Last year a deaf girl attended the camp of the Queens Council of New York. In her school life she was curiously unwilling to attempt speech. She began her camp life with the same reluctance to talk or to try to read lips; but she couldn't maintain her seclusion. The contagion of camp fun drew her on, and she threw away her pencil and pad. At long last she was really trying to read lips and to keep up with the pace of the good times around

her. Her teachers were delighted with the change in attitude, and she has maintained it.

The girls of the two Buffalo, N. Y., deaf troops regularly visit and are visited by the local hearing troops and are invited to their banquets and parties. The same is true of the deaf troops of Rome, Rochester and other New York cities. Some of the Scouts go to camp with the normal girls, and their leaders report that they are friendly and mingle readily with the others. They have won for themselves, too, that tremendously important gain, a sense of real community helpfulness: One of the Buffalo troop's activities is the raising of money for contribution to regular charities.

The troops of crippled girls number almost as many as the deaf troops, and to them the national organization also extends the full program of Scouting so far as they are able to avail themselves of it. The Girl Scouts have taken the stand that no two girls are alike and that the handicap of one child may not be a handicap to another. Therefore they lay down no special program for these crippled children. By way of illustration, the loss of a leg might seem a real enough handicap to most of us; yet last summer in a camp of normal Girl Scouts a girl with only one leg took part in camp activities and passed her Junior Red Cross Life Saving test with flying colors. She did not consider herself handicapped at all!

Frequently, one or two crippled, blind or deaf children are included in a group of normal campers. In all cases of this sort the girls are carefully chosen, with the full approval of their parents and the attending physician. In some places, troops of physically handicapped girls have had their own camps. In every case, however, camping is undertaken only under the most careful, but inconspicuous, supervision and with the full cooperation of parents and the physicians in charge of the children.

Camping with physically handicapped girls calls for resourcefulness as well as a background of acquaintance with the children's disability. When a group of crippled Girl Scouts from Milwaukee County, Wisconsin, went to camp last year, the counselors met with unexpected opposition to the rest period. One leader suspected that the girls felt the rest hour was a special restriction put on them by their crippled condition. The camp director talked informally to the girls, explaining that she wasn't interested in any camping that wasn't *good* Girl Scout camping and pointing out that rest hour was approved procedure in all Girl Scout camps for everybody. The girls responded to the appeal to them as normal campers; no leader could have asked for better rest hour observance after that. In several cases of this sort, camp life has done as much to teach these handicapped children the value of rest as it has to spur them to appropriate activities.

The administration of this Wisconsin camp followed the national organization's recommendation that counselors be chosen with special care and that more of them be available than in a normal camp. There were two units, one for younger and one for older girls. The younger group was made up of fourteen girls, 13 years old and younger. Most of them had been crippled by infantile paralysis. They were in charge of a unit leader, an assistant unit leader and a practical nurse supplied by the Wisconsin Department of Rehabilitation. The unit leader was herself a trained physical therapist. Another person helped the girls with their "kapers"—the camp tidying and cooking duties. The general camp staff consisted of a director, a dietitian, two cooks and an assistant, one handyman and for two days the regular camp nurse. There were two red coaster wagons to provide "taxi service" for the more crippled campers and much laughter and good nature to smooth the way. Swimming was unfortunately banned, but only because the doctor reported a condition of the water which made it unwise. There were boating, sunbathing and exciting nature adventures which made the girls feel that they were, after all, not so different from any other Girl Scout campers.

One of the chief gains from camping experiments of this sort is often made, not by the girls but by their parents. After one camp in upper New York State, one of the physicians in charge remarked that the parents now realized that their handicapped children could join with others—under supervision—and be a vital, active part of the group. The parents' almost pathetic surprise and pleasure at this discovery might make one suspect that the attitude of discouraged or oversolicitous relatives helps to contribute to the child's feeling of inferiority. A change in the parents' outlook may be as important as a change in the attitude of the handicapped child herself!

At many camps for crippled children, handicrafts are emphasized, but the girls also share in tidying up the camp, outdoor cooking, swimming, treasure hunts, singing, dramatics and games. The counselors often discover that the new environment and the stimulus of group activity produce many happy results.

The Wyoming Valley Girl Scout Council has done a notable piece of work in organizing community groups to make possible a camp for Wilkes-Barre's troop of crippled girls. Laymen and professional authorities have worked together on the project to make it a success. The Girl Scouts enlisted the cooperation of the physicians and staff of the Wyoming Valley Crippled Children's Association, the Y. W. C. A., the men and women of Rotary, Kiwanis, the Junior League, the women of the Shrine, the American Red Cross, the Luzerne County Emergency Relief Board and *(Continued on page 466)*

H. Armstrong Roberts

By HARRIET ACHESON KOCH

WHEN WINTER slips icily into an early but undecided spring and the thermometer is moody as a movie star with its sudden ups and downs, all of us appear to have one problem in common, either how to keep well or how to get well.

It's no secret that it is much pleasanter to keep well than to get well; and with the help of scientists and doctors, who are concentrating nowadays on fighting an offensive battle and are making steady gains too, it is becoming much easier to do than formerly. One of the foremost weapons in this offensive battle is a good diet. And when a doctor speaks of a good diet he is almost sure to say somewhere, "And be sure to eat plenty of vegetables."

Now there is just one thing about it. If we are going to have plenty of vegetables for our families, without having them grow caustic about the number of times buttered carrots appear on the menu in one week, we have to go out and adventure a bit in the markets.

Sometimes we meal planners get to feeling that balancing the national budget would be

simple compared to getting variety in vegetables for the winter meals. Sometimes, because of modern transportation methods, our city markets look much the same as the summer markets, except for the price tags on some of the varieties which unfortunately rise as the mercury sinks. But whether canned, frozen or fresh, there are enough varieties of vegetables available to make meals exciting at all seasons.

If, like some of us, when you sit down to plan the meals, you find yourself trying in vain to think of more than half a dozen standbys, keeping a list of the vegetables to which you can refer is sure to be an inspiration. This is mine:

Artichokes	Carrots	Peppers
Asparagus	Cauliflower	Radishes
Beans, green	Celery	Rutabagas
Beans, lima	Corn	Sweet potatoes
Beans, navy	Eggplant	Squash
Beets	Leeks	Swiss chard
Broccoli	Mushrooms	Spinach
Brussels sprouts	Onions	Tomatoes
Cabbage, white	Parsnips	Turnips
Cabbage, red	Peas	

On another list I have jotted down the salad greens, some of them powerful pretenders to the throne on which lettuce sits.

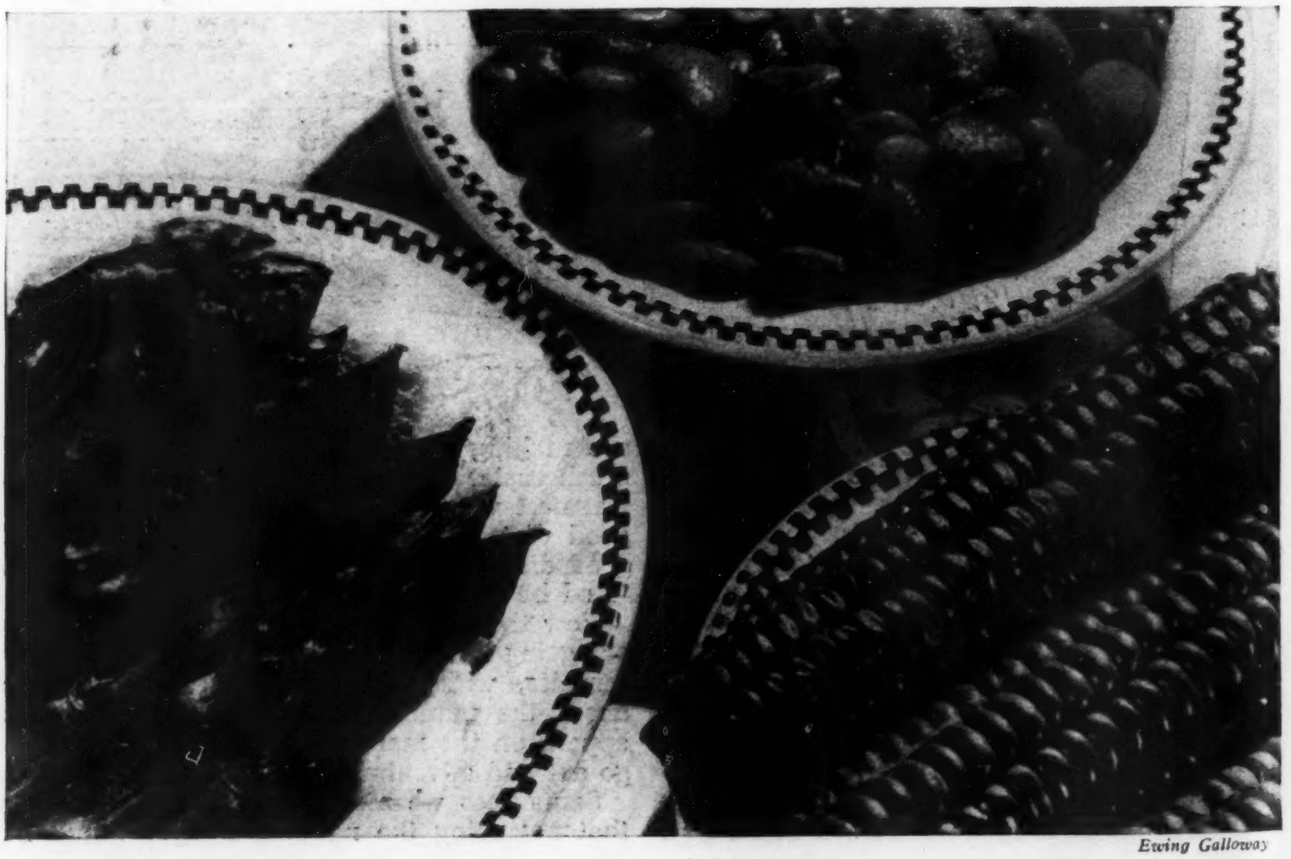
Chinese cabbage	Escarole	Romaine
Chives	Lettuce, head	Watercress
Endive	Lettuce, leaf	

With such an imposing list it seems as if there should be plenty of vegetables so that a woman need never pine for "something different." But when it is remembered that most of us nowadays try to have two or three of them, either cooked or raw, in one meal or at least in the day, it is easy to see that there are bound to be repeaters. Therefore most of us are ever on the lookout for new ways to fix old favorites to augment the list of available kinds. Sometimes it is only an unusual seasoning, a little different treatment or a small addition that makes a new and more delightful dish of an old standby. Sometimes it means getting acquainted with varieties which for some reason we have, in the past, overlooked.

Most of the following recipes have been favorites for many years in our family and are welcomed as a change from the more usual plain buttered or creamed.

Red cabbage is a vegetable too little served as far as certain ones of us are concerned, and cooked in this old German style it lays claim to "wearing the purple." Maybe it should have a fancy name to encourage newcomers to try it, but we call it just plain red cabbage.

WHEN A DOCTOR SPEAKS OF A GOOD DIET HE IS ALMOST SURE TO SAY, "AND BE SURE TO EAT PLENTY OF VEGETABLES." WHETHER THEY ARE CANNED, FROZEN OR FRESH, THERE ARE ENOUGH VARIETIES OF VEGETABLES AVAILABLE TO MAKE MEALS EXCITING AT ALL SEASONS OF THE YEAR.



Ewing Galloway

Red Cabbage

(Recipe serves 6)

2 pounds red cabbage, finely shredded
1 onion, coarsely chopped
2 tablespoonfuls butter
1 sliced apple
1 cupful water
1 teaspoonful sugar
1½ tablespoonfuls vinegar

Brown onion in butter. Add finely shredded cabbage, water and sliced apple. Cook slowly for about two hours or until tender. When nearly done, add sugar and vinegar. If more water is needed during cooking, add just enough to keep the cabbage from burning.

Except for the tiny, new ones, green beans are a vegetable which, in the social scale, rate rather generally about on the lowest rung. Given the proper boost, however, they can advance majestically up and up. Until you try it you could never guess what a help bacon and a bit of onion can be, as in the following:

Green Beans—Holland Style

(Recipe serves 6)

2 pounds green beans
¼ pound bacon, chopped
1 small onion, finely chopped
1 tablespoonful vinegar
2 tablespoonfuls bacon fat

Wash and remove ends from beans. Cut beans lengthwise into halves and crosswise into halves or thirds. Cook in boiling, salted water until just tender. Drain. Brown chopped bacon slowly until crisp. Add chopped onion, bacon, bacon fat and vinegar to the green beans. Heat together a few minutes, and serve.

Spinach is another vegetable that is not always given an enthusiastic reception. When it is prepared in the same way as the green beans it has been known to shoot to popularity practically overnight. Canned spinach may be used as well as the fresh and with much less labor.

Leaf lettuce also does well treated with the same dressing. Some know it as wilted lettuce, but by any name it's just as good. The method for lettuce varies a little.

Dutch Lettuce

(Recipe serves 6)

4 cupfuls coarsely shredded lettuce, packed firmly
1 cupful young green onions, cut fine
⅓ cupful chopped bacon
1 teaspoonful salt
1 tablespoonful sugar
¼ cupful diluted vinegar

Mix lettuce and onions, if used. Fry bacon slowly until crisp; add remaining ingredients and stir until well blended. Pour over mixed greens, and toss lightly with a fork until lettuce is wilted. Serve immediately.

Like Punch and Judy, ham and eggs, black and white, so corn and beans go together, especially when a little ham is added to make succotash. The taste is "tops," the fragrance of its cooking an unforgetable memory.

Succotash—Old Style

(Recipe serves 6)

2 cupfuls fresh, frozen or canned whole kernel corn
1 cupful baby lima or other shell beans
¼ pound salt pork or piece of smoked ham

Cover with water, and cook together slowly for an hour or more. Much of the water will evaporate during cooking, leaving just enough to make the food moist. The more modern way, which some may prefer, is to cook corn and beans separately until just tender, then combine and season with salt, pepper and butter. It's good, too, and of course takes less time, if that is what is wanted.

A vegetable which is an old-timer yet not well known is eggplant. Decorators are recognizing its shining purple beauty and using it with other vegetable or fruit combinations as decoration for dining room table or buffet, but as yet we cooks continue pretty much to neglect it, a practice we should be wise to discontinue. Several popular tea rooms serve it this way, and it is delicious.

Fried Eggplant

(Recipe serves 6)

1 eggplant
1 egg
1 tablespoonful milk
1 teaspoonful salt
1 cupful fine, dry bread crumbs

Peel eggplant, and cut in ¼ inch slices. Dip in flour, shake off surplus. Beat egg slightly; add milk and salt. Dip floured eggplant slices in egg mixture, then in bread crumbs. Cook in a small amount of hot fat in a frying pan about 15 minutes, browning both sides well.

Because eggplant is such a rich, almost meaty vegetable, it is particularly delicious served in the following way:

Stuffed Eggplant

(Recipe serves 6)

1 eggplant
Bread stuffing

Cook eggplant 15 minutes in boiling, salted water. Cut slice from top, and carefully remove pulp with spoon, taking care not to break skin. Add pulp to bread stuffing. Stuff in shell. Bake 25 minutes in moderately hot oven (375 F.).

Cabbage, like the poor, we have with us always; and for the poor, or those who would remain rich, it's a good vegetable with which to be on friendly terms. There is no better way for serving it than in cole slaw or plain boiled with buttered dressing. "Plain" boiled is a misnomer, since when it comes from the kettle tender, delicate in flavor and a symphony in color with the golden butter melting over the tender white cabbage, it is a sight to stir any

one to heights of poetic fancy. To achieve its highest beauty and most delicious flavor, cabbage must be treated with respect. Any one who believes in cooking it to a dark tan, soggy mixture, strong in flavor and odor, receives zero for her efforts. Cabbage should be boiled, uncovered, in quite a lot of boiling, salted water —*only until tender,* not one whit longer. I usually put it in the serving dish and put the chunks of butter on the hot cabbage, letting it melt down through in a golden stream.

Because raw cabbage comes close to the head of the class when minerals and vitamins are considered, because it adds an often needed and different crispness to a meal, but most of all because it has a first-class flavor, cole slaw deserves more widespread popularity. But it must stand on its own feet before it deserves a single vote—none of this despondent, limp, wilted variety. Soaking the cabbage in cold water for a while accomplishes this end. Then it must be shredded *finely,* and that means almost threadlike, before it gets any praises sung for it. With meat, especially pot roast, cole slaw is good; but it reaches its heights when it is served with many casserole dishes, such as macaroni, spaghetti or rice and noodle combinations, or with soufflés or omelets. To the cabbage a bit of pineapple and boiled salad dressing may be added, or some green pepper, grated carrot and onion with the boiled dressing. Real cole slaw, however, has no traffic with salad dressing and is made in the following way:

Cole Slaw

(Recipe serves 4 to 6)

2 cupfuls cabbage	2 tablespoonfuls sugar
¼ cupful vinegar	Salt and pepper
2 tablespoonfuls water	

Chop or shred cabbage fine. Mix vinegar, water, sugar and salt together. Pour over chopped cabbage, and let stand in refrigerator ½ hour before serving.

While we are on the subject of old-time favorites, why is it we so seldom see dried lima beans served any more? They are too good to allow upstarts in the vegetable kingdom to replace them altogether. They are a good, filling, stick-to-the-ribs sort of food, especially when fixed this way:

Creamed Lima Beans

Cover 1 cupful dried lima beans with boiling water, and cook for 1 hour. Drain, cover again with boiling water, and cook until tender. Drain, season with salt and pepper. Add ½ cupful cream or top milk and 1 tablespoonful butter. Reheat and serve.

Parsnips are another vegetable with which modern youngsters scarcely have a speaking acquaintance, and I say *(Continued on page 472)*

HEALTHGRAMS — *FROM ARTICLES IN THIS ISSUE*

¶A kiss from an affectionate but infected maid has brought untold misery into many homes. *See page 400*

¶Three hours of moderate outdoor exercise are better than many barbiturates as inducers of prompt, calm and restful slumber; physical fatigue tends to produce sleep; nervous fatigue does not. *See page 433*

¶Camping with physically handicapped girls calls for resourcefulness as well as a background of acquaintance with the children's disability. *See page 426*

¶Babies require many sacrifices; but the sacrifice and the toil are easier if the mother keeps herself physically fit. *See page 411*

¶The major function of the hospital is to provide facilities and personnel to assist the physician in preventive teaching and research. *See page 456*

¶Regularity in baby's routine is one of the secrets of proper development and of contentment for him. *See page 406*

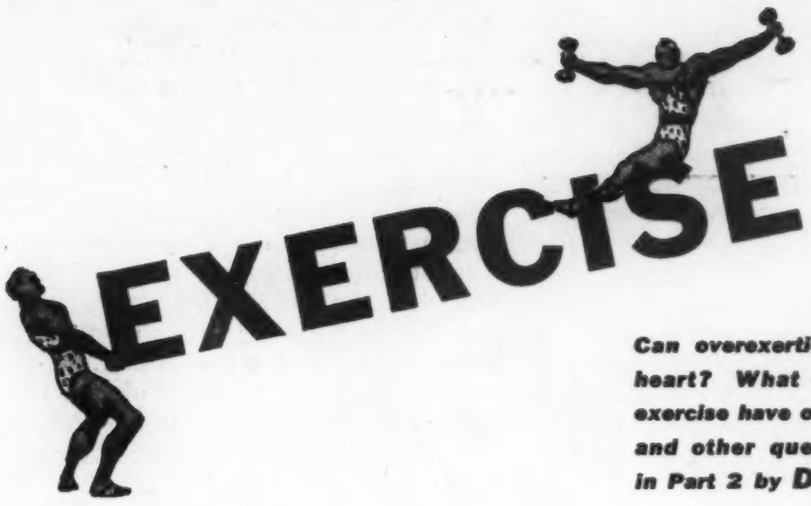
¶It is much pleasanter to keep well than to get well; and with the help of scientists and doctors, who are concentrating nowadays on fighting an offensive battle, it is becoming much easier to do than formerly. *See page 429*

¶While electricity can produce definite effects on the human body and its processes, magnetism, as such, is wholly without any such action. *See page 439*

¶Children are so different from adults that the approach and entire handling must be different: Be firm; do not let your child get the better of you, or all will be lost and confused. *See page 436*

¶Careful evaluation of the learning processes, especially with the thought constantly in mind that the child learns by imitation, will prevent silent suffering of many thousands of children. *See page 442*

¶Increased speed of travel and ease of intercommunication among nations have done and are doing some curious things in the way of spreading diseases. *See page 414*



***Can overexertion harm the healthy heart? What effect does physical exercise have on your weight? These and other questions are answered in Part 2 by* DUDLEY B. REED**

ALTHOUGH exercise increases the rate of respiration, it increases its depth more. Under resting conditions the respiration is quite shallow, not more than a fifth of the total lung capacity being used. This means that the small and remote air spaces tend to resemble the parlor of the farmhouse of yesteryear in being aired at long intervals only. During vigorous exercise they receive their airing, as nearly the entire lung capacity is likely to be used, and four or five times as much purification of the blood can be accomplished by one complete respiration. Ordinarily an adult breathes about fifteen times a minute. In general, exercise increases this rate somewhat, although, as every one has himself experienced, very vigorous exercise especially of the speed type may cause rapid, panting respiration. The amount of ventilation of the lungs varies directly with the amount of work done, and there is no evidence in the normal person that there is ever a lack of oxygen available in the lungs. The sensation of being "out of breath" has little or nothing to do with conditions in the lungs but is a matter of the failure of the circulation to take adequate oxygen to the muscles or of the chemical machinery adequately to use the oxygen in the repair of broken down glycogen and elimination of lactic acid. During heavy muscular work the consumption of oxygen may reach 3 liters a minute.

To provide this amount of oxygen, from 50 to 100 liters of air a minute must be handled by the lungs. In very brief, violent exercise the performer holds his breath and then breathes rapidly and deeply for a minute or two after the cessation of effort. The sprinter holds his breath when running the 100 yard dash although, if he is running at full speed, he needs oxygen at the rate of 30 liters or more a minute.

Actually no man's heart can supply him with more than one seventh of that amount, so he cannot go on at such high speed for more than a fraction of a minute; he rapidly becomes tired; he quickly acquires an "oxygen debt." This tiredness is due mainly, if not entirely, to the appearance of lactic acid inside the muscle fibers themselves. The oxygen debt is capable of reaching quite enormous values. Between 15 and 20 liters of oxygen, which is enough to keep a man going for more than an hour at rest, may be used in recovery from a comparatively short period of exertion. From this oxygen debt may be calculated the amount of lactic acid actually present in the muscles themselves at the end of exercise. One liter of oxygen used in recovery implies the removal of 6 grams of lactic acid from the muscles. Thus in the limit about 100 grams, or 4 ounces, of lactic acid may

DEEP BREATHING EXERCISES USED TO BE PRESCRIBED TO "STORE UP OXYGEN."

be liberated in the muscles of a man before complete exhaustion ensues.

Deep breathing exercises such as were prescribed years ago to "store up oxygen" are a snare and a delusion. The deep breathing should follow the need for it, and its stimulation can be left safely to the nervous centers. Oxygen cannot be stored up by deep breathing, although an "oxygen jag" or intoxication has been so produced.

To the most casual reader of these comments it becomes evident that efficient muscular work is dependent on efficient and delicately coordinated functioning of the circulatory and respiratory systems. If the activity is to be economical the heart and lungs must begin promptly to supply the extra oxygen needed and must furnish just the required amount. And they do these things with marvelous promptness and accuracy and with very nearly perfect teamwork. The synchronizing agency is the nervous system, the centers of which (automatic centers if you will) are stimulated by some change in the blood, formerly thought to be the presence of carbonic acid, now generally considered to be increased hydrogen ion concentration which is due, in turn, to more carbonic acid. The procedure is as follows: Almost as soon as exercise is begun the carbonic acid output of the muscles is increased and appears in the blood, causing increased hydrogen ion concentration. In a few seconds, some of this changed blood reaches the appropriate nerve centers, carrying a message which is interpreted as an S. O. S. for more oxygen. In another second, nearly identical messages are sent out to the heart, the lungs and the blood vessels. At once the heart beats faster and harder, the diaphragm works harder and a bit faster, the blood vessels in the working muscles dilate and those in the abdomen contract, and the whole mechanism is keyed up to a somewhat higher pitch, how much higher depends on the type and severity of the exercise. The achievement of what is called "second wind" is due to this kind of adjustment at a new and higher level.

Abdominal exercise has some immediate mechanical effect on the movement of food through the intestines by a sort of message as the muscles contract and relax; it has a remote effect of the same sort by keeping up the tone of these muscles and retaining the stomach and intestines in good position. This may have a bearing on constipation.

Without definite evidence one may guess that the increased supply of oxygen which is helpful to the brain during exercise does no harm to the glands which secrete the juices essential to digestion; it may well do good, especially as these glands obtain their raw materials from the blood, and more blood passing through them should increase the supply.

Probably the chief effect of exercise on digestion is indirect—on appetite. One needs no extraneous laboratory evidence on this point. There is scarcely a man now living who has not at some time tried fairly vigorous physical activity over a longer period than is his wont and discovered how pitifully time lags between feedings. Under such conditions he may have started work or climbing or whatever it is at 8 a. m.; and when his stomach says that it is lunchtime he looks at his watch and then listens to it to see whether it has stopped, finally concluding that for some unknown reason it is proceeding at half speed ahead, since it indicates 10 o'clock when it should be 12. The ravenous appetite engendered by the first few days of such exercise is usually abated somewhat if the program continues for weeks, but it remains above par. From childhood we have heard that hunger is the best sauce, and to this the expert on metabolism agrees. Digestion functions better if food is taken with desire.

Exercise increases the elimination of water and carbonic acid through the lungs because of the greater activity of circulation and respiration; it increases the elimination of water, salts and perhaps some carbonic acid through the skin by means of perspiration, an increase which may be so great that a football player may lose ten pounds of weight in hard practice or in a game, all of which he will regain before the following morning by the simple and not unpleasant process of drinking water. This great loss of water accounts for two things noticed by most persons who exercise and perspire: thirst and a lessened output of urine, which is highly colored. Apparently lungs and skin "pinch-hit" a bit for the hard-worked kidneys during exercise.

I do not know of any evidence to support the notion so widespread among athletes that no water whatever should be swallowed during a football game or a tennis match, a notion which produces much ostentatious gargling and spitting on the field or floor. Presumably a man might drink enough to make him water-logged and slow, but a few swallows do not make a summer. Exercise may promote elimination from the intestines as indicated previously. Since the increased elimination by lungs and skin is accompanied by greater production of carbonic acid and accompanied or followed by a greater intake of water, it does not necessarily provide any "purification" of the body with the brisker exercise, although it may be of benefit to the condition of the skin, especially as the exercise is apt to be followed by a bath and a vigorous rub.

Physical fatigue tends to produce sleep; nervous fatigue does not. Three hours of moderate outdoor exercise are better than many barbiturates as inducers of prompt, calm and restful

IN SHORT RACES, THE SPRINTER TAKES NO BREATH AT ALL.

slumber. It seems to be true, however, that one may be "too tired to sleep." Physical exhaustion may be followed by lying awake and wondering why the heart beats so as to shake the bed. Exercise of the large muscles produces the kind of tiredness that makes for sleep, physical or muscular tiredness; exercise of the small muscles produces more nervous weariness. This seems to be on account of a preponderance of the nervous element in small muscle exercise, possibly because it requires as much nervous stimulation to make a small muscle contract as it does to make a large one do so; certainly because the contraction of the small muscles does not have such physiologic effects on circulation and respiration and because the small muscles must often work with greater accuracy and speed. Reading, for example, is largely a neuromuscular activity, as is chinning oneself. In reading, however, there may be a hundred times as many separate muscle contractions in a given time. When one reads a page the eyes move across it in a series of leaps which must be extremely quick and extremely accurate, and at each leap the eye must be focused by the optic lens so that the vision shall be clear, and all this is neuromuscular. The relatively small muscles which move the fingers in skilled activities also require wearying nervous control, as in such performances as piano playing. It is of great educational importance to determine correctly the age at which children who are inclined to be nervous should take up the piano. At any rate, hiking is more likely to be soporific than playing on a musical instrument.

By training is meant that regimen of life which is designed to put one in the best condition to do a job, usually an athletic or at least a physical job, although it would be quite as reasonable to train for an intellectual job. This regimen probably includes certain regular habits of diet, rest and exercise. The diets used in training have been varied, widely different, often ridiculous, and the adaptability of the body may be proved by the creditable athletic performances accomplished on diets most astounding. Today the general practice is to advise a balanced diet with no particular interdictions, in quality the sort of diet which any healthy person should have, in quantity somewhat more than for the sedentary individual. Regular and adequate rest is an essential part of the routine, as is regular and intelligent exercise. The results of such a procedure are interesting from a physiologic point of view and include effects on muscles, coordination, heart and blood pressure:

1. The muscles gain in strength, size and endurance by training.

2. The coordinations, at least for the particular type of activity that *(Continued on page 474)*

YOUR PART In Your

WHAT TO DO

Prepare the child ahead of time about doctors' and nurses' behavior and what the operation will be like. You don't have to explain every detail—you probably couldn't—but satisfy the child's fear or curiosity, and be truthful as far as you go.

Build up a readiness for the operation as a new experience which, in spite of some pain, will be interesting.

Build up willingness to comply with nursing service and doctor's orders by emphasizing quicker recovery.

Keep the environment simple and quiet.

Lessen the child's constant dependence on you.

Help the child to make his own decisions and take the responsibility.

When the child is home again, treat him as a normal member of the family. Send the child to school as soon as possible if the school is healthfully run and there is an understanding teacher. The child may then be one with his contemporaries and not a social and mental misfit.

Keep a favorable attitude toward doctors and hospitals.

Don't discuss the illness in the child's presence!

IT'S HARD to be rational and matter-of-fact when your own child is to undergo an operation. There are three steps in this operative ordeal which parents must face: the mental, or psychic, preparation of the child for the operation, the time at the hospital and the convalescence at home. The unpleasantness can be much diminished for both parent and child by the attitudes and tone of voice of the parent. Mother love may threaten to overwhelm, but the really good mother love faces the situation squarely and sees that tears and kisses do far less good than a calm tone of voice and interest in a new experience for both child and mother.

Mental preparation of the child before the operation is as important as maternal care after the operation. If Mother and Father can possibly master themselves to get the child to understand the situation and be ready for it, the child will be the stronger. As thoroughly as time allows, you will want to build up a confidence in doctors and nurses and an understanding of what will happen to the child. I say as thoroughly as time allows because frequently operations must be done on short notice.

You can begin with the pain or the "hurt" that the child is having and show that the operation is the best way of getting over it. A normal child of even 4 years can reason that it isn't pleasant not to be able to play and will want the operation over, in order to be well again. Let him know the doctors and nurses are there to help him get well. If something will hurt, let him know it. Always be honest with the child. You need only go into the anatomy of the operation up to the point where the child is satisfied; but as far as you go, be truthful and matter-of-fact. Steel yourself to maintain an outward calm whether or not there is an inner one. Tell the child he is getting to be more like a big person in this new experience of going to the hospital. Before my 5 year old daughter, Emily, went to the hospital for a mastoid operation, I told her that the doctor would wear a white cloth or mask over part of his face to keep his germs from making her more sick. Then I explained that on a bed on wheels a nurse would roll her from her bedroom to the doctor's room. In the doctor's operating room the nurse or doctor would give her something to smell so that she would sleep and not feel the hurt of the cutting they had to do. Any time she showed reluctance her father or I would say, "But don't you want your ear to get well?" Of course she did, so we would repeat that the doctor would have to cut behind the ear to take the pus or lump away. This worked so well that even the second time, four weeks later, when she had to reenter the operating room she was willing to have a little more cutting to be sure that all was clean and well.

We thought we had prepared Emily pretty well for the hospital and operation. When we left the car and went upstairs at the hospital, there were babies crying. I explained that these were new little babies just born, which she already knew came from their mothers at hospitals. We took her to look at them through the glass windows of the baby ward. Then alas, a thoughtless nurse came up, almost ruthlessly tore Emily from her daddy's arms and told her she was going to take her upstairs to see a kitty. It wasn't long until Emily became suspicious, as the kitty was a plain untruth. Emily's crying was heard all over the hospital. If you are wise, you will forestall such an occurrence by telling the nurse at once what tactics are consistent with your preparation.

Children are so different from adults that the approach and entire handling must be different. Blessed be well managed children's wards with proper nurses and physicians! Many small cities cannot afford a children's ward, and you have to use an adult ward. But do your best, whether you have a private or floor nurse, to get one with some understanding of children. When, four weeks later, Emily had to make her second trip to the operating room, I went to the door myself with her prepared on the table. I

Child's Recovery

By PERSIS PENNINGROTH

told her again she would soon be smelling something for sleep, then said good-by and explained that all would be well. And it was.

The hardest part for the parent is probably the inactivity, the waiting while the operation is performed. It takes self control, for you must be calm in order to help the child later.

After the child is back from the operating room and is still under the influence of the ether, all there is to do is to sit quietly by the bedside to be present when he wakes up. In calm, sympathetic but not sympathizing tones and words, tell him that he is all right. Though each child's behavior at that time will vary somewhat, you can still reassure him that he is getting better. The number one post-operative rule is assurance.

The next rule is quiet expectancy that the patient will comply with all the rules and regulations of the hospital staff to get well. Help the child to feel he is making his own decision for proper rest and diet, and let it be his own responsibility to carry them out; but be firm about the doctor's regulations being fulfilled. Don't get weak heart and change! Keep yourself as inconspicuously in the background as possible; but always hear all the child has to say when you are alone, so that he may talk out any fear or repression. It is wise to take the attitude that the hospital is a good place to be. Here he is closest to helpful doctors; some one is always at hand to care for him, and Mother and Daddy can get some rest. Then there is some fun in this new experience, for there are flowers and toys and stories to be read or told to him.

By all means, keep the environment simple. You may even leave a memorandum with the

AS THOROUGHLY AS TIME ALLOWS, YOU WILL WANT TO BUILD UP A CONFIDENCE IN DOCTORS AND NURSES AND AN UNDERSTANDING OF WHAT WILL HAPPEN TO THE CHILD. YOU CAN BEGIN WITH THE PAIN OR THE "HURT" THAT SHE IS HAVING AND SHOW THAT THE OPERATION IS THE BEST WAY OF GETTING OVER IT.

Shigeta-Wright

floor or private nurse that only one new toy and one bouquet of flowers are allowed each day. So many parents think they have to be lavish whether or not they can afford it. This is too bad, because the child needs quiet, not excitement and stimulation. Hence, introduce only one or two new things into the plain hospital room a day; for example, a pottery dog with a little flowering plant at his back and a new story book are sufficient for one day. Old toys and favorite story books can be brought in one at a time and exchanged for others to be taken home. Do not be afraid of having too few things in the room. Read and reread the same stories, as children do not tire of those they like. Also old stories are usually less stimulating than new ones. Do not read to him all the time or give too much attention. At no time during the critical or convalescent period do you have to entertain constantly. Let him entertain himself with appropriate toys. Ask a kindergarten or grade teacher what is most suitable if you yourself do not know. Rest, and do your own work on a chair in his room. Take reading, writing or sewing of your own along, and do it. Let him doze off to sleep or just be quiet if he feels like it.

Do not let the child become dependent on you unless you want to store up for yourself later trouble and embarrassment by a spoiled child. Our little girl stayed alone at the hospital from the first night, and we were six miles away at our home. It took mental effort to bear up as she said good-night, but such is the stuff of character building. We left the hospital each night at her regular bedtime and went home and to sleep. Be firm; do not let your child get the better of you, or all will be lost and confused. Be pleased, and compliment him when he has eaten his meal all by himself when you were not there. Always be glad when you hear he has done things without you. As he gets stronger, even while at the hospital, you can resume his schedule of meals, bowel movements, nap period and bedtime. In this you can write out your schedule for the nurse.

Every mother needs some time out both at the hospital and at home for her own sake and that of the child. Explain to the child that in being out you will have more to talk to him about, including his little friends, when you return. When you go away tell him where you are going and the approximate time you will return. Then let nothing interfere with your keeping to this time! That's only fair. It is more necessary than your most important appointment. Also, never break a promise made to a child. Whether it concerns your time of return, something you will bring or do or whatever it is, meet it. Of course, it almost goes without saying, be careful what you promise. Keeping your child's confidence will help him have more independence and security.

Almost before you realize it your child can come home from the hospital. On this glorious day beware of too much excitement! Doting Aunt Mary, hurly-burly Uncle John, grandparents and all the neighbors and their children will want to give a welcome (as well as satisfy their curiosity). But what a setback it can cause! Save the child, whether or not you can make Mary, John and the Joneses understand. Keep to your child's schedule rigidly. After he is up and about, he must not be pampered. Make any differences unobtrusive. Older sisters and brothers as well as adults in the family can easily get the habit of giving in to the younger child if they are not shown the error of their ways.

As he recuperates, there is one more cardinal principle: Don't keep discussing his illness before him to others! Too many people today delight in talking not only about their family operations but those of everybody else they know. If an adult asks about or starts talking of the operation before the child, just answer "fine" at the time and change the subject. If the adult must know more, wait until you are out of seeing or hearing distance of the child.

I purposely started Emily back in kindergarten earlier than I might otherwise have done, so that her social and emotional development would not be retarded. The kindergarten teacher was understanding, and I wrote out Emily's needs for the time being and her differences from the other children. The teacher was able to explain to the children about Emily's ear operation, and matters went smoothly. Emily was one with them again. She was asked to rest more than the other children and was given an in-between meal of malted milk; but in modern kindergartens the children are used to individual differences and to a flexible program.

Several months after Emily's last visit to either doctor or a hospital, I had a splendid chance to test how well we had succeeded in making a favorable reaction toward hospitals. Her father fell, broke a collar-bone and was bruised enough to spend a night in the hospital. The next morning Emily was ready and asking whether she might accompany her older sister and me down to see Daddy. I thought perhaps when we got inside the hospital door and she saw the sights or smelled the hospital odor, she might retreat. But not she; she walked with unwavering steps right through the corridors with us into her daddy's room. She talked to her daddy objectively and to his doctor pleasantly when he came in. We were there at least half an hour. When we went back to the hospital later in the morning to take him home she again displayed no fear but rather enjoyment. Probably she felt, "I've been through this, so now I'll show you how it's done." It was the much desired reaction.

Electric and Magnetic CURE-ALLS

Their therapeutic efficiency is no greater than that of the left hind foot of a rabbit caught in a churchyard in the dark of the moon, says

ARTHUR J. CRAMP

IT IS NOT SURPRISING that phenomena so mysterious and even yet so little understood as electricity and magnetism should have been invoked both by ignorant enthusiasts and by venal quacks in the treatment of human ailments. And here at the outset it must be emphasized that while electricity can produce definite effects on the human body and its processes, magnetism, as such, is wholly without any such action. This fact, which has been repeatedly substantiated, should be borne in mind in reading what is to follow.

The simplest of all electrical phenomena is the attractive force with which certain substances are endowed after they have been rubbed with such materials as fur, silk or flannel. Amber was one of the first natural substances found to possess this quality; hence our modern word "electricity" from the Greek word "electron" for amber. While this particular phenomenon was known for centuries before the Christian era, it was not until the sixteenth century that any systematic study of the subject was made.

The simplest and most fundamental of all magnetic phenomena is the property possessed by certain iron ores of attracting small fragments of iron or steel. Such ores were early found in the district of Magnesia not far from the Aegean coast and were termed "magnes," from which we get our word "magnet." The Chinese, eleven centuries B. C., are said to have known the property that magnets have, when supported so as to turn freely in a horizontal plane, of always coming to rest with their poles pointing nearly due north and south. Only within comparatively recent times has it been recognized that the source of all magnetism is electricity.

Nearly two hundred years ago, in 1750, the idea was promulgated that the forces of electricity and magnetism, if properly applied, might be the long looked for panacea or catholicon, the universal cure-all. One of the first to capitalize on the subject was Franz Anton Mesmer (1733-1815), the Austrian from whose name we derive the word "mesmerism." While Mesmer was studying medicine in Vienna he became interested in astrology and came to believe that the stars exerted some influence on human life. He thought at first that the force was electricity but later decided that it was magnetism, and he conceived the idea of stroking the bodies of sick persons with magnets, by which means he was reported to have effected many cures. Later he made the acquaintance of a Swiss priest, Gassner, and observed that the priest effected cures by manipulation alone without the aid of magnets. Still later it was borne in on Mesmer that neither the use of magnets nor the laying on of hands was essential in producing his cures; that the power of suggestion in itself was sufficient. He called it "animal magnetism."

In 1778, Mesmer went to Paris, where he became noted for his successful treatments by suggestion, always supplemented however by the display of what the public was led to believe were intricate pieces of electrical apparatus but which in fact were wholly devoid of any electrical force. Mesmer, like certain more modern charlatans, was able to deceive some members of the medical profession, the influential president of the Medical Faculty of Paris among them. The French government is said to have offered Mesmer a pension equivalent to $5,000 a year if he would establish a Magnetic Clinic; but the price was not high enough, and he refused it. However in 1783, when several wealthy persons raised the sum of 340,000 livres (equal to $100,000 of our money at that time) Mesmer condescended to instruct them in his mysteries.

To such an extent were hysterical and hypochondriacal persons exploited by Mesmer and his numerous imitators that the French government finally appointed a commission to investi-

MESMER

gate the phenomena of "animal magnetism" in general and Mesmer in particular. The great French chemist Lavoisier and our own Benjamin Franklin, who was in Paris at the time, were among the members of the commission.

Mesmer's consulting rooms were said to have been furnished with a due regard to the mysteries of his art: In dimly lighted chambers hung with mirrors, with the silence of the seances broken only by subdued strains of music, the patients sat hand in hand around a huge circular vat which Mesmer called a *baquet,* or battery. This was filled with bottles partly covered with liquid and connected by wires that the patients could apply to their persons. Mesmer, dressed as a magician, would move silently among them, making weird passes and occasionally stroking his victims with a metallic rod or wand!

After some months of investigation the commission brought in a report declaring that Mesmer's apparatus was quite incapable of producing either electricity or magnetism. The commission acknowledged that Mesmer produced certain remarkable effects but declared that these could be explained on the basis of physiologic action and were not due to what Mesmer called "animal magnetism." As a result, Mesmer was denounced as an imposter, and mesmerism, or hypnotism, which when scientifically applied may have a limited field in the treatment of human ailments, fell into disrepute.

Contemporary with Mesmer was James Graham (1745-1794). He was born in Edinburgh and studied medicine in the university of that city although it is not recorded that he ever took a degree. Graham came to America and practiced as an eye and ear specialist in Philadelphia. The experiments of Benjamin Franklin, then much in the public eye, convinced Graham that in electricity there lay a lush field for quackery—and Graham was inherently a quack. He returned to the British Isles, where he set himself up as an advertising quack, dividing his time about equally between London and Bath, with an occasional trip to Paris.

Graham had a way with him. He won support from many influential and fashionable patrons whose claims to aristocracy lay in their birth rather than in their intellect. In London, Graham opened one of the most remarkable establishments ever conceived by a quack; he called it the Temple of Health. At its doors were stationed two huge guards dressed in flowing robes; they allowed no one to enter until the entrance fee of 6 guineas, about $30, had been paid. The Temple was ornately and fantastically furnished. Soft music, sweet perfumes and various electrical accessories were part of the Graham mumbo-jumbo. The main room, the "Grand Apartment of Apollo," contained a "throne" with a "crown" suspended above it from which electrical discharges could be played. Graham, unlike Mesmer, had an elementary knowledge of electricity and is said to have designed some frictional-electric machines that would produce sparks of some magnitude.

THE "CELESTIAL BED" OF JAMES GRAHAM'S TEMPLE OF HEALTH WAS GUARANTEED A SURE CURE FOR STERILITY. BY PAYMENT OF $250 A CHILDLESS COUPLE COULD OCCUPY THE BED FOR ONE NIGHT. THE INSCRIPTION WAS MADE BY GRAHAM HIMSELF.

In the matter of perquisites, Graham had delusions of grandeur. He is said to have demanded, not uncommonly, fees of $5,000 in advance. Graham moved in the grand manner; he was an imposing-looking fellow of commanding presence and with strong sex appeal. His *opus major* was the "Celestial Bed," a rococo affair supported on ornate pillars of crystal and hung with brocaded damask. For the sum of 50 guineas ($250) a childless couple could occupy the bed for one night; it was guaranteed as a sure cure for sterility.

Yet while Graham was a swindler, he appears to have dispensed some sound hygienic advice with his quackeries. He is said to have been the first; or among the first, to recommend the open window for the sleeping room and to urge

frequent baths—both heretical ideas in his day. He urged, too, frugality in eating and drinking at a time when gluttony and drunkenness were rife.

Finally, as always, the public saw through Graham's quackeries, and in 1782 the Temple of Health was closed, and his Celestial Bed and other paraphernalia were put under the hammer. After the crash, Graham tried to "come back" by preaching the virtues of baths and fasting. At the height of his fame he had declared that he would live to be "at least 150 years old." But Graham went insane and died at the age of 49!

Another of what Prof. A. J. Clark has well called "Universal Cures"—that is, cure-alls—was the metallic tractors of the Connecticut Yankee, Elisha Perkins (1741-1799). As these have already been dealt with at some length in my article "Some Peculiar Patents," published in HYGEIA in March 1937, only a brief description of the tractors need be given here. Perkins' tractors consisted of two pieces of metal similar in shape and size, each not unlike a horseshoe nail. One of the tractors was seemingly made of brass and the other of steel. In use the pointed ends were drawn over the affected part of the body. Perkins patented his "invention," but the United States Patent Office has reported that the patent was apparently destroyed in a fire in 1837. This curative marvel for a while took the country by storm. It is recorded that George Washington as well as the then Chief Justice of the United States each obtained a set for personal use.

Perkins ascribed to his tractors certain electric or magnetic virtues, for he created the device after experimenting with the application of magnets and metallic substances to diseased tissues. His son, Benjamin, went to England to exploit his father's tractors. There the aristocracy outdid in enthusiasm even that of the great and near-great of the country of their origin. Benjamin is said to have cleared up $50,000 before the fallacy of the tractors was exposed by two English physicians. In the meantime Elisha Perkins, apparently believing in his own magic, attempted to treat yellow fever, but he contracted the disease and died in 1799. Less than two decades after his death the tractors had passed into the limbo of forgotten fakes.

AN OLD CARICATURE OF A TREATMENT BY PERKINS' TRACTORS. THE POINTS ARE BEING DRAWN ACROSS THE PAINFUL AREA.

THIS MAGIC PIECE OF GASPIPE WAS FILLED WITH A STICK OF CARBON AND SOLD FOR THE SUM OF $35.

Two allegedly electrical devices, the Electropoise and the Oxydonor, were brought out by Hercules Sanche in the nineties. Sanche was a notorious quack who traded on the public's ignorance of the powers and limitations of electricity as a curative agent. He described himself as the "discoverer of the laws of spontaneous cure of disease." The Electropoise, according to Sanche, supplied "the needed amount of electric force to the system" and caused the body "to absorb oxygen through the lungs and pores." It was a nickel-plated cylinder, or piece of pipe, about 4 inches long and 1 inch thick. It was sealed at both ends, and to one end a piece of flexible insulated wire was attached which at its free end had fastened to it a garter-like attachment with a metallic disk. In use this garter was fastened to the wrist or ankle of the victim while the Electropoise was immersed in a bowl of cold water. When cut open the Electropoise was found to be hollow and empty! It was sold for from $10 to whatever the traffic would bear. The cost of manufacturing them in quantities could not have exceeded 25 cents.

So readily did the credulous respond to Sanche's quackery that he extended his operation by bringing out and patenting a modification of the Electropoise, which he called the Oxydonor; that is, the oxygen giver. It differed from its proto- *(Continued on page 462)*

HERMAN M. JAHR tells about

BAD HABITS in GOOD CHILDREN: I

And Moses said unto the Lord:

"Oh Lord, I am not a man of words, neither heretofore nor since thou has spoken unto thy servant; for I am slow of speech and of a slow tongue."

Exodus 4: 10

EVERY ONE appreciates speech as the vehicle for social communication of man. The lowliest ditch digger and the most dignified professional man alike respect and admire the individual gifted with ability to express himself. There is no field of endeavor in which success is not in some way dependent on the power of speech.

My purpose in this article is to discuss the origin and development of speech defects among children, in the hope that youngsters may, through parental intelligence, avoid the social and economic pitfalls of such handicaps in later years. And let it be emphasized here that of all bad habits to which youngsters are addicted none is more destructive to the unfolding personality of the individual than defective speech. Nor do these defects have to be of an outstanding nature to work havoc with the child's personality. At times even a faint lisp will cause him to shrink into himself for fear of being ridiculed.

Only the other day I watched a group of neighborhood children at play. There were several girls and boys, varying in age from 6 to 11 years. One girl looked rather downcast. She did not seem to fit into the game. She refused to jump rope when her turn came; whereupon one of the older boys remarked, "Aw let 'er alone. She talks funny, and she's afraid." There was a burst of laughter. The victim turned around and walked off. A sadder spectacle is not often seen. Her "funny talk," I subsequently learned, lies in substituting "w" for the "r" sound. And her name would be Ruth Greene! "Oh, do we have fun with her. Only she hardly ever talks." This from one of her classmates. Children are brutally frank with one another; and innocent though their remarks may be, they are nevertheless painful and humiliating to the sufferer.

A 12 year old boy, a chronic truant, who had been in many scrapes was brought to the attention of a physician. At the time of his first visit he was under Juvenile Court order in connection with a legal offense perpetrated by a gang of older boys with whom he had been associated for some days previously. Barney was a clever lad, a bit under size for his age. It was not until the doctor's third session with him that he became communicative. The doctor had noticed a mild lisp on the first interview but scarcely suspected that that would have much bearing on the boy's difficulties in school. The boy told his own story, depicting his discomfort from the day he entered school. In the lower grades the situation was tolerable in a way. He had become accustomed to his lot. What with sympathetic teachers and neighborhood chums, it was inconvenient, to be sure, but the struggle was partly successful. In the seventh grade his instructor began to insist on correct pronunciation. She "picked" on him until it appeared to him that every word in the recitation contained the ill-famed letter "s." He would pause,

LAUGHED AT IN SCHOOL BECAUSE OF HIS SPEECH DEFECT, HE HAD FOUND IN TRUANCY THE NATURAL ESCAPE FROM SHAME AND RIDICULE; AND TRUANCY HAD BROUGHT HIM TO CRIME.

make a conscious attempt at proper pronunciation, fail and—"who wants to be laughed at all the time, by the whole class? And the teacher laughed too." Truancy was the natural escape from shame and ridicule.

There is the case of Helen Scott, aged 9 years, who has the annoying habit of speaking with a nasal tone. She says "do" for "no" and "be" for "me." She is a healthy, good looking child, though sulky and at times disagreeable. Mrs. Scott insists that the girl is "delicate and nervous." A physician was called while Helen was suffering from an attack of abdominal pain one morning. There was high fever, vomiting, pain and an inflamed throat. She was kept out of school for two weeks, although all symptoms disappeared three days after the onset of her illness.

Complaints about pain in the abdomen have been frequent ever since. They always occur in the morning when it comes time to go to school. Records of her case do not show a single call on a school holiday. She doubles up with pain, screams and tries to vomit but is unsuccessful. This "pain" lasts until about 9:30 and disappears as mysteriously as it came. A surgeon who had seen her during one of these attacks on the first day of school following her last spring vacation said privately that the girl's discomfort was in her classroom, not in her abdomen. Her mother, a not particularly intelligent woman, still believes that the child has appendicitis and that the bad news is being withheld from her. One does not need to be highly imaginative to find the logical cause for the child's unwillingness to attend school. She is not popular with her classmates, and the teacher reports that she is uncooperative and that she daydreams most of the time.

Besides lisping, baby talk and the nasal voice, there are many other preventable and correctable speech defects which children develop early and which are only too frequently carried into youth and adulthood to mar the lives of these individuals. Slurring of words, mumbling and spluttering are imperfections which, if cared for early, are usually amenable to correction; but the importance of *early* attention to these defects cannot be overemphasized.

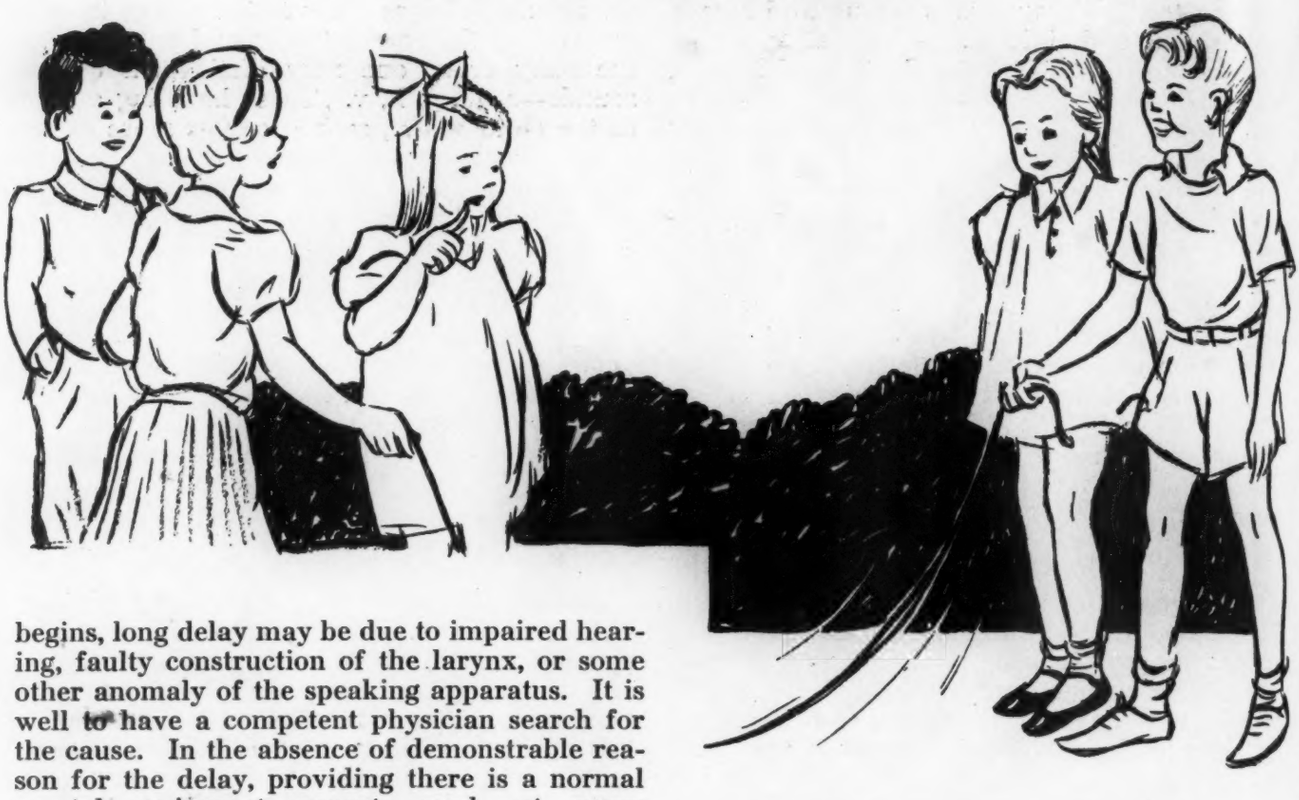
Every child with a tendency to impediment of speech is entitled to a most thorough physical examination. His chest, mouth, nose, throat and ears should receive careful study. Quite often anomalies of voice and speech are due to trouble in one or several of these organs. It should be remembered however that once distorted speech has become a habit, mere removal of physical defects does not constitute a cure. Systematic reeducation by trained instructors is a necessary complement to medical or surgical care.

In order to guide the child intelligently in his speech, it is necessary to understand the principles by which this phenomenon develops. The infant with a normal physical and mental endowment shows evidence of appreciation of the human voice as early as the end of the first month. At the end of the second month, when the baby cries, one may distinguish definite sounds—a, m, g, k, v. These babbling sounds, as the child grows, soon occur as more or less voluntary expressions without the cry and are uttered in constant repetition, probably for the child's own amusement. Although he has no comprehension of the meaning of speech at this age, there is ample evidence that he enjoys hearing his own voice and is fully conscious of the voices of those around him. His sensitive nervous system, as early as one month, will yield not only to the time-honored lullaby; it will be soothed as readily by his mother or nurse bending over the crib and calmly talking to him. He is not interested in words, to be sure, but rather in the intonation and gestures accompanying the various sounds. He is already becoming appreciative of language.

As he grows he begins to imitate these intonations, gestures and finally words, always associating them with early impressions. At the age of 6 months or thereabouts, his babbling sounds begin to assume word form. Meaningless though these syllables may seem, they are the initial steps to language. Da-da, na-na, ma-ma uttered at this period do not constitute the later terms designated for his respective parent or grandparent. Words distinguishable in meaning are seldom expressed before the ninth or tenth month.

The average baby on his first birthday has a small repertoire of seven words. The number is not much enhanced at 18 months; but from this period on, progress is very rapid. At 2 years of age the average child has command of 328 words, and this number is practically doubled in nine months. While much room must be allowed for individual variation, these figures must be respected as significant. Any great divergence should be viewed with open mind. While some children by nature are slower than others in the time at which talking

"AW, LET 'ER ALONE. SHE TALKS FUNNY, AND SHE'S AFRAID," HE TAUNTED, AS SHE STOOD BY, DOWNCAST.



begins, long delay may be due to impaired hearing, faulty construction of the larynx, or some other anomaly of the speaking apparatus. It is well to have a competent physician search for the cause. In the absence of demonstrable reason for the delay, providing there is a normal mental equipment, parents need not worry much about the condition.

Several years ago I heard of a boy of 3 years who, so the story went, began to say "daddy" and "mama" at 10 months. At 3 years his language was limited to these two words, except that he could say "sh" for sister. The child seemed well developed in every other respect. The youngest child in a family with five children, and the only boy at that, his sisters were at his beck and call all the time. If he wanted an object, all he had to do was point to it. Often enough he was spared the energy even of pointing. His wishes would be predicted and promptly fulfilled. Furthermore, his gestures were so "cute" that every one in the house enjoyed and talked about them. A grunt, a twinkle with one eye and thrusting his hand out in the direction of the desired object sufficed to attain his wish. The family had learned a sign language from him instead of the child following the accepted routine of learning from his elders. Thus two fingers denoted a drink of water, and one finger in the direction of the cupboard served to bring cookies.

Soon after the family had been convinced of the fallacy of the procedure, the boy began to talk. He had to undergo a lengthy period of training, but the result was worth the effort. This boy is now 12 years old and is in the seventh grade in school.

Recent studies in speech show that the social status of the family has little to do with the time at which children begin to speak. As a rule, however, the higher we go in the scale of intelligence, the greater the acceleration once the baby has started talking. The size of the family does have some bearing on the development of speech though; whether it is acceleration or retardation depends on whether the brothers and sisters stimulate the acquisition of language by teaching the youngster to talk or obviate his necessity for words by being constantly at his service.

The unfolding of the sentence is a most interesting study. It should be understood that comprehension precedes language. The child has many ideas which he cannot express in words. Before the end of the second year one word accompanied by a few angular gestures is often used to depict a single object or even a whole situation. After two years, a subject and predicate may be used, although the significance of this construction is not understood by the child. Full grammatical sentences, however, cannot be expected before grammatical consciousness is attained.

Language is aquired by imitation. Imperfect coordination of muscles in the young child frequently precludes exact pronunciation. This results in syllabic inversions and the verbal distortions for which all youngsters are famous because they contribute so much to the amusement of aunts and uncles and neighbors. I know a 16 year old high *(Continued on page 465)*

QUESTIONS and ANSWERS

"Head Banging" in Children

To the Editor:—Our little girl, aged 3 years, has a habit of rhythmically rocking to and fro, banging her head against the back of the chair. Frequently this banging is quite violent. She scarcely ever sits down for two minutes without starting this motion. Sometimes it is accompanied by singing. Is this an abnormal condition which calls for correction? Her little brother just over a year old is commencing to imitate her.

W. H. G., Washington.

Answer.—This is a not uncommon nervous condition of infancy and early childhood, known as head banging. It is not due to any organic nervous disease. It begins as an expression of some general nervous irritation and soon develops into a habit which is difficult to overcome. It is more likely to develop in children with a nervous background. The first attacks usually begin at bedtime. The banging may continue for as long as two hours before the infant falls asleep. If it cannot be checked soon, it begins to be a nervous habit repeated in the daytime. Seldom do such children harm themselves.

The habit may often be broken by the use of a specially prescribed sedative at bedtime, and it may be necessary to give a sedative during the day. Some children express this excessive nervousness by pulling the hair and scratching the skin.

Tannic Acid in Treatment of Burns

To the Editor:—In the June, 1937, issue of HYGEIA there appears the following statement in respect to treatment of sunburn: "The simplest and most effective measure is to apply cold compresses of tannic acid . . . The proper strength of solution, which should be freshly made, may be obtained by dissolving 2 tablespoonfuls of tannic acid powder in 1 glassful of water." What size glass should be used; or is it not important to have the solution of an exact strength? Why should it be freshly made? Is it that the strength of the solution would soon deteriorate, or is it on account of decomposable matter which might be in the water? If the latter, would it be effective to use distilled water and keep the solution in a bottle tightly stoppered until used? If the solution is so prepared in advance, would light have any effect on its retention of strength? Would it be effective to dissolve the tannic acid powder in melted petrolatum and then apply as a salve, or to incorporate the tannic acid in a liquefying cold cream with mineral or other oil as a base?

W. N., Minnesota.

Answer.—Two rounded tablespoonfuls of tannic acid powder dissolved in an 8 ounce glassful of water makes approximately a 2.5 per cent solution by weight. In the past this has been regarded as a satisfactory strength for the treatment of burns, though recently there has been a tendency to use stronger solutions. Accuracy here is not important, and strong tea prepared by actual boiling may be used when the solution has cooled.

According to Sollmann ("A Manual of Pharmacology," fourth edition, p. 182), "The solution must be freshly made, since the aqueous solution soon decomposes into the far less astringent gallic acid." This is again emphasized by Fantus and Dyniewicz in an article on "Compound Solution of Tannic Acid" in *The Journal* of the American Medical Association. At first glance, the following objections would seem to apply to the household use of such a preparation in spite of its alleged stability. It is necessarily more expensive than the powdered tannic acid, which may be made into solution as needed. It means the storing of a bulky inconvenient quantity in the family medicine closet, as the amount used in a given case of sunburn is surprisingly large. A simple aqueous solution of tannic acid will decompose in the dark, and molds will grow in it readily unless preservatives are added.

The stability of tannic acid in any greasy or oily base is open to question. The Council on Pharmacy and Chemistry of the American Medical Association rejected "Amertan," which represented an attempt to incorporate tannic acid and merthiolate in a cream. Furthermore, there is a wealth of evidence to show that grease applied to a clean dry tannic acid eschar in severe burns is followed by a recurrence of toxic symptoms. It would seem illogical, even in the case of a mild first or second degree burn like sunburn, to allow greases or oils to interfere with the tanning process. Another advantage of the simple tannic acid procedure, in contrast to the use of ointments, is that clothes may be donned without soiling as soon as the skin is dry.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Eyeglasses for Astigmatism

To the Editor:—I had my eyes tested a while ago and was told I have astigmatism. I am wearing glasses to correct this now, but I am under the impression that I should see clearly with them. When I look at any print or signs at a distance, I cannot see them as clearly as I can see them without glasses. When I close my left eye and look with the right at a calendar on the wall about 20 feet from me, all the numerals are quite blurred. When I take my glasses off I can't see as clearly up close as I could before I had this new pair, and I am worried that if they don't fit properly they are apt to ruin my eyes. B. N., Washington.

Answer.—Generally, glasses that correct astigmatism make the vision clearer. But often eyes that have astigmatism can partly correct the fault by straining the focusing muscle. If the eye has this habit of straining, it will keep on straining when the glasses are put on; and the glass, with the straining, will make a double correction and make the sight worse. When the eyes have learned to relax and allow the glass to do the work, vision will be better. Glasses to correct astigmatism have to be the right strength and turned the right direction. If turned the wrong direction, they make the sight worse. New glasses should always be checked by the doctor who prescribed them to see that they are turned right.

(Continued on page 476)

The Race Against Chocolate Cake

By ELSIE G. HIGGINS

"MMM, that was good!" Billy Benson patted his waist-line appreciatively after his third piece of chocolate cake. "There isn't anything in the world better than chocolate cake except chocolate pie with whipped cream an inch high."

He let out his belt two notches and gave a satisfied sigh.

"Yeah, Fat?" his high school brother teased. "You certainly couldn't run a 440 tonight. Say, I bet you couldn't last 200 yards right now."

"I have a mind to take you up on that, but I'm generous, I am. Keep your money, Big Boy." Billy flushed a little. He knew Bob was right. Just that minute he couldn't have run 25 yards.

"You were wheezing when you came down the stretch at practice last night. They could hear you breathe all over the field. You'll never win in the track meet at that rate." Bob was serious.

"Aw, that was because I ate an ice cream cone just before practice. Besides, the track meet isn't for a month." Billy yawned and tried to laugh it off, but Bob grabbed him by the shoulders.

"Listen, kid. The 440 in the city grammar school meet has always been won by a Benson. First Tom won, then I came in ahead, and its up to you to carry on. Moreover, no event in track was ever won by filling up on chocolate cake. Get me?"

"Oh, sure. I'll let up on the eats in plenty of time," and Billy squirmed out of Bob's grasp and went out to stretch himself on the grass.

"ONCE AND FOR ALL YOU MUST GET INTO SHAPE IF YOU'RE GOING TO RUN. A TURTLE COULD PASS YOU."

He decided he really ought to go easy on desserts and candy. But certainly his mother was the best cake maker in the town, and he did like something sweet.

The next day there was strawberry shortcake for dinner, and it seemed a poor time to begin passing up desserts. Then Dad brought a box of candy home to Mother, and Billy dipped into that generously.

Practice didn't go so well. Of course he came in ahead, but always before that he had done it easily. That afternoon he felt like a stuffed sausage, and his wind had deserted him. But of course he knew that a day or two of careful eating would straighten that out.

Bob was disgusted. He had come over from the high school to watch the tryout, and his practiced eye saw that Billy was just about all in.

"Bill," he said sternly, "once and for all get into shape if you're going to run. A turtle could pass you. Now I happen to know that you are going to have a practice meet Friday with the sixth and seventh grades in your building. Let up on the shortcake, and run every night. I'll pace you tomorrow night."

Billy was tired and a little frightened. Tom Burton had nearly passed him in that last final spurt. He really meant to eat lightly, and he did that night. But the next day there was company, and his mother made one of her famous apricot upside-down cakes. Billy ate his piece of cake and then saw that there was an extra piece. He slid into the pantry and ate the cake with an eye out for Bob. But that young man had to take the company down to the park, so Billy didn't have to practice that night. "Lucky, too," he thought. "I feel sort of logy."

Friday afternoon came and with it the trial meet. Bob came over with some of the other high school boys who were acting as score keepers. As one event after the other was run off, Billy found himself wishing that he felt a little lighter and could breathe more easily.

Finally the 440 was called, and Billy got off to a good start. "Easy now," Bob cautioned, "or you won't last." The first quarter went pretty well, then the second and Billy knew that it was going to be hard to finish. At the third quarter, Tom Burton was right beside him, and then Billy saw him pull ahead. Billy's legs felt so heavy that he could hardly move them, and he was so choked that each breath hurt. He plodded doggedly along thinking of the things Bob would say. "I'll show 'em," he vowed as he stumbled across the tape knowing that Tom had beaten him by five yards.

He went straight home and up to his room where Bob found him a half hour later.

"Not so good," Bob said cheerfully, "but not so bad either if you've learned your lesson. Now, then, let's get to work. We'll plan your meals and your practice. First, no candy except a piece after meals; no pastry; lots of fruits and vegetables, and a quart of milk a day. Then a practice run every evening. How's that?"

Billy looked up gratefully. "Gee, Bob, you're great. I expected you'd be mad. I'll begin on the routine right away."

"All right. Temperance is a good thing for any one to practice."

"Temperance?" asked Billy. "Why, that goes with drinking—"

"And eating. It means moderation, fellow. Coach says we need temperance in eating, drinking, work and play. All set, then?"

"Am I? Just watch me."

The first day on the new diet didn't seem to make much difference, but by the fourth day Billy felt much lighter and fleeter of foot. By the end of the two weeks he was in good shape, and he confided to Bob, "Say, I'm not so dumb as I was in school. Right after dinner I used to go to sleep nearly. I can think better this way."

"Of course you can. That will help you too. A runner uses his head, you know, as well as his feet."

The city meet came on a Saturday, and all Billy's family were at Porter Field. One event followed another, and then the 440 was called. Billy grinned at Bob and was on his toes. Then he was off. He struck a steady pace with good even breathing and began to draw away slowly from the other runners. When he stepped across the tape he knew that he was good for another twenty yards.

Bob was waiting for him, all smiles, and Billy smiled back. "Temperance did the trick, didn't it Bob?"

"Sure did, that and your own backbone. The Bensons are proud of you, Bill."

BILLY'S LEGS FELT SO HEAVY THAT HE COULD HARDLY MOVE THEM, AND HE WAS SO CHOKED THAT EACH BREATH HURT.

PARASITE TRICKS (Continued from page 416)

is a red streak that usually denotes its presence, but the worm is rarely where this color is. As long as it confines itself to the skin area it is merely an annoyance, but occasionally it will migrate to the head and may cross the bridge of the nose, where it causes a good deal of irritation. Or, as we have noted from its name, it may start wandering around in the eye. It seems to have a fondness for this organ. Sometimes it passes through with some speed and does little damage more than to irritate the eye while present. A few instances of removal of the worm from the eye are recorded. A similar worm is quite common in the eye of dogs and horses.

The process of catching the worm is exceedingly difficult. In two cases of this character I have tried a number of times to remove the worm but never succeeded in being at the right place at the right time. In the first case the patient was a doctor, an officer of my command who had served in western Africa in earlier years. As this is the home of these worms, he was infested. For some years the worm, or possibly worms for it is impossible to tell how many there are, would appear underneath the skin and start migrating near the surface. He tried to locate it ahead of the apparent line of march, which was indicated by a red streak, but it was never where it seemed to be. The officer, a laboratory expert, was so anxious to capture it that he was insistent on a number of minor operations to attempt its capture, but it was too smart. Unless the worm has died of old age he may still have it, as they frequently live many years.

The second was a veterinary officer who probably contracted the infestation in the Philippines. At any rate the two histories of the cases were closely parallel, though this worm did not seem to be nearly so active as the former and appeared at much longer intervals.

While we still lack definite methods of controlling the worms in the body, much advance had been made in the use of medicines that seem to have a selective action on such parasites, and undoubtedly a remedy will be found. At present the control is through the fight on the fly and protection from bites to the greatest extent possible.

Of late years there has been much discussion of a new disease called relapsing fever. It is well named; for after the first attack, when the victim thinks he has recovered and is feeling about normal, he will have another attack. This may happen several times, usually not less than three and frequently up to a dozen or more. This fever is due to another of the blood worms, called a spirochete, and there are many varieties of this worm. Nearly every land seems to have its own particular form of relapsing fever, but all known at present are caused by some variety of a spirochete, which is a very small parasite, found in the blood or tissues. The one that most concerns us now is named Spirocheta recurrentis. Many insects have the power of transmitting these worms, but the louse and tick seem to be the most efficient. Bedbugs are suspected and have been found carrying the worms. Lice are certainly important in the spread of the disease, but later studies indicate that the tick, on account of its long life, is perhaps even more of an enemy. Ticks may live for months without food, and once infested the tick is practically always infested. Not only may the adult ticks transmit the disease, but the adults pass it on to their young, so that even the very tiny, newly hatched ticks, which are miniatures of their parent, can bite and may easily transmit the disease. Young (seed) ticks are so little that they may be overlooked and perhaps in that way are fully as dangerous as the adults. These parasites certainly do their best to trick us and have provided amply for their own survival through these insects which are so commonly associated with people.

Particularly are the ticks dangerous when the summer outing season begins, and we go to our summer resorts and open up the cabins. Here the ticks are waiting for us, usually hungry from the winter's fast, and as soon as we take up residence in the cabins we are victims of tick bites. We used to think nothing of this, just a little annoyance, and if we had learned how to remove the ticks without breaking off the head, there seemed to be no ill effects. But so many cases of sickness followed such camping seasons, particularly in some localities, that finally investigators connected the fevers with the tick bites, and now this danger is much better known.

The ticks live on all rodents, but it is the squirrels that concern us. One of these is a tree squirrel, which seems to prefer to inhabit the cabins in the cold weather. If he can possibly do so, he will find or make a way to get in and will make a nest therein. Then the squirrel family scatters ticks all over the place. Another is a ground squirrel, which moves in under the shack, also carrying an abundant supply of ticks; and as such shacks are usually roughly built and not at all tight, ticks easily migrate into them and await the return of the occupants. As both these squirrels are reservoirs of the parasite of relapsing fever, it becomes exceedingly important to clear the cabins of rodents and then to fumigate or clean them of ticks before the families start living in them.

Relapsing fever is disabling over a long period of time if not properly treated, but fortunately now it is usually quite readily controlled by medical attention.

There are hosts of other blood worms, fortunately quite rare in most cases; but one other is of general interest, although confined mostly to Africa at present. This limitation is not so fixed as we would like to see it, for similar cases have appeared in northern South America, and under favorable conditions, this disease will undoubtedly spread to other parts of the world. The disease in question is commonly called sleeping sickness and is so serious in certain parts of Africa that it has practically destroyed populations, has caused the abandonment of great fertile areas and the removal of whole villages.

The worms of this disease are of the class known as trypanosomes. They are short and stubby with a hairlike tail and look somewhat like tadpoles. They are very small, not much longer than the distance through a red blood corpuscle. The worms are transmitted by many insects and infest many animals and reptiles. They were known in frogs long before they were in man. In the last century, when explorers and hunters were so anxious to get to the interior of Africa, and so many of their draft and riding animals died of a curious sickness soon after arrival in certain localities in Africa, the discovery came about. The story is a long and interesting one. Briefly, Dr. Bruce found that the disease which was killing these draft horses and cattle was caused by a trypanosome and that it was transmitted to the animals by a fly, which we have learned to know as the tsetse fly, Glossina morsitans. Then it was found that a similar trypanosome was transmitted to man by another tsetse fly, Glossina palpalis.

New tricks are developed in the transmission through the tsetse fly. This fly occurs mostly near water. It prefers the dense shade and produces only a few living young, instead of thousands of eggs. Moreover, it actually nurses its young, so that when they are deposited in the soil, usually one or two at a

(Continued on page 470)

WHERE TO DIAL

RED NETWORK

*WEAF	New York
WNAC	Boston
WTIC	Hartford
*WJAR	Providence
WTAG	Worcester
*WCSH	Portland, Me.
KYW	Philadelphia
*WDEL	Wilmington
*WFBR	Baltimore
*WRC	Washington
WGY	Schenectady
*WBEN	Buffalo
WCAE	Pittsburgh
*WTAM	Cleveland
*WWJ	Detroit
WSAI	Cincinnati
WIRE	Indianapolis
*WMAQ	Chicago
KSD	St. Louis
*KSTP	Minn.-St. Paul
*WHO	Des Moines
WOW	Omaha
*WDAF	Kansas City
WLW	Cincinnati
WFEA	Manchester
*WSAN	Allentown
WORK	York
WMBG	Richmond
WCOL	Columbus
*WGL	Fort Wayne
WOOD	Grand Rapids
*WBOW	Terre Haute
*WGBF	Evansville
*WEBC	Duluth-Super'r
KSOO	Sioux Falls
KANS	Wichita
*WTAR	Norfolk
*WPTF	Raleigh
*WSOC	Charlotte
*WFBC	Greenville
*WWNC	Asheville
*WIS	Columbia
*WCSC	Charleston
WAVE	Louisville
WSM	Nashville
WMC	Memphis
WSB	Atlanta
*WAPI	Birmingham
*WJDX	Jackson
*WSMB	New Orleans
WROL	Knoxville
*WJAX	Jacksonville
*WFLA-WSUN	Tampa
*WIOD	Miami
*KGBX	Springfield, Mo.
KVOO	Tulsa
*WKY	Oklahoma City
KGNC	Amarillo
WFAA	Dallas
WBAP	Fort Worth
*KTBS	Shreveport
*KTHS	Hot Springs
KARK	Little Rock
KPRC	Houston
WOAI	San Antonio
KFDM	Beaumont
KRIS	Corpus Christi
KRGV	Weslaco
WTMJ	Milwaukee
WIBA	Madison
WDAY	Fargo
*KFYR	Bismarck
KOA	Denver
KDYL	Salt Lake City
*KPO	San Francisco
*KFI	Los Angeles
KGW	Portland, Ore.
*KOMO	Seattle
KHQ	Spokane
*KTAR	Phoenix
KOB	Albuquerque
KFBK	Sacramento
KWG	Stockton
*KMJ	Fresno
KERN	Bakersfield
KIDO	Boise
KGIR	Butte
KGHL	Billings
*CFCF	Montreal

* Reported broadcasting the programs.

PUTTING THE PROGRAM ON

IN HYGEIA for April a brief description was given of the process of preparing the radio program "Your Health."

After the script has been prepared, checked and rechecked for accuracy and clearness, and mimeographed, it is delivered to the production department of the National Broadcasting Company. A production director is assigned for the whole series of programs. He reads the script and assigns parts to actors best qualified to portray the various characters in the dramas. He has a choice among a large number of actors, many with special capabilities, who are listed in the Artists' Bureau maintained by the National Broadcasting Company in connection with its Chicago studios, where the program is produced. These actors are then called, and a copy of the script is given to each.

The first rehearsal is held Monday afternoon, two days before the program goes on the air. At this time the actor reads his part, while the director, with a stop watch, times the program. The director suggests interpretation of scenes, characters and speeches in order to bring out the dramatic value of the scenes and to point out effectively the lessons which the program is intended to teach.

While the first rehearsal is going on at the National Broadcasting Company, the doctor who is scheduled to summarize the program in the last three minutes on the air is also going over the script and picking out points of special importance which need emphasis. He writes a summary timed to three minutes and delivers it to the production director in time for the second rehearsal, which begins about three hours before the program goes on the air.

The second rehearsal is held in the same studio from which the broadcast will be made. At this rehearsal the equipment required for making sound effects to accompany the program is on hand, together with one or more sound technicians to operate it. The scenes are now rehearsed with greater attention to detail and with accompanying sound effects. Sometimes it takes a great deal of trial and rehearsal to get exactly the sound effect desired, especially if it is an unusual sound. At this time, details of word pronunciation, especially of medical terms, are settled. The director further assists and criticizes the actors in their presentations. Sometimes a difficult scene is played over many times. At this time also the director makes what are known as "cuts" in the script. Script writers learn by experience how much material is required for a thirty minute show, but they usually write it a trifle long, because it is easier to shorten than to lengthen a script. Before the final rehearsal, the director takes out scenes, or portions of scenes, to make the show exactly fit the time, which for a thirty minute show is twenty-nine minutes and forty seconds. The remaining twenty seconds are for what is known as the "station break,"

which to the radio listener means chimes and the announcement of the call letters of the local station. If appropriate arrangements can be made the orchestra is also present during this entire rehearsal; but often, for reasons of economy, the orchestra does not appear until the final rehearsal.

About an hour before time to go on the air, the last, or dress, rehearsal begins. This is a complete presentation, including all announcements, music, dramatic scenes and sound effects. The director, in an enclosed booth with triple glass windows, can be seen by players, orchestra, announcer, sound effects men and the doctor who closes the show with his summary. The director controls the production by means of signals. He makes a last check on the time by means of a stop watch constantly before him. When the dress rehearsal closes, the director assembles all persons concerned in the production for a final conference on points which require attention.

At exactly 1 p. m., central standard time, all persons concerned in the production are in their places in the studio. The announcer listens with earphones to the network program immediately preceding, which may come from another studio in Chicago or some other city which is an NBC production center.

When the announcer hears the chimes and the "station break" for the preceding program, he signals silence in the studio. The director stands ready, and as the electrically controlled clocks in the studio touch the scheduled hour, he signals the announcer, who speaks into the microphone: "To America's Schools —YOUR HEALTH!"— and another program is on the air.

HEALTH TEACHING HELPS BY RADIO

DATES AND TOPICS OF WEEKLY BROADCASTS

1938

MOTHERS and CHILDREN

April 27—Healthier Babies: daily routine of the healthy baby; medical supervision; feeding.

May 4—Healthier Mothers: general advice for the expectant mother; good for boys and girls to know about.

May 11—Hospitals Aid Health: the place of the hospital in the health program of the individual and the community.

May 18—Runabouts, 1938 Model: the preschool child and the health and personality problems of that age.

USING HEALTH KNOWLEDGE

May 25—The Health Check-Up: periodic health examination and what follows, and why.

June 1—Vacation Plays and Misplays: making the vacation a real contribution to health and recreation.

June 8—Graduation and Then What: a new phase of life begins at commencement, and health contributes to success.

June 15—What Medicine Offers for Health: flashes from the American Medical Association meeting at San Francisco, giving highlights of medical progress.

SUGGESTIONS FOR TEACHERS

The following briefs of the eighth group of programs, together with the reading references and suggestions for things to do in connection with the programs, are intended as helps to teachers. The program itself is not intended to supplant health teaching, but to supplement it.

April 27: Healthier Babies.—All children are born into this world dependent physically, mentally and emotionally. The object of all child care and training is to make the child independent physically, mentally and emotionally. Good habits for the baby are founded on regularity in eating, sleeping and elimination.

A very young baby sleeps most of the time but can be trained early to get his longest sleep at night. As he grows older he needs less sleep, and the parents should see that his waking hours are in the daytime, preferably in the late afternoon so that he will not be wakeful at night. Put baby to bed at 6 o'clock, and do not play with him at that time or later. Have the room cool and dark, shut the door, and let him go to sleep by himself.

Training for sleeping and eating should be begun at the third day of life. As a rule a young baby should be fed every four hours from 6 a. m. to 10 p. m. unless the doctor orders otherwise. The baby should be wakened if he is asleep at feeding time. An important rule in feeding the child is that he is not to be overfed, especially during the hot weather. The baby should never be urged to eat.

Bowel training should be begun by the third month and bladder training by the eleventh month.

Bathing the baby is a daily task and for most mothers an enjoyable one. During the warm days two baths a day will greatly aid the baby's comfort. The room should be warm, between 75 and 80 F. The temperature of the water should be 100 F. The soap should be mild. Testing the water with the hand to see whether it is too

hot or too cold is not a reliable method; it is best to use a thermometer. If baby's face and scalp become irritated from the soap, then olive oil should be employed.

Clothing should be regulated according to the weather. During the summer it should be light and cool. As one physician has said, "On hot days the baby wears a smile and a diaper." During cold weather the body must be protected, but it need not be bundled up so that there is no freedom of motion or free circulation of air.

Baby should be outdoors a part of each day, except when it is stormy or the temperature is below freezing. When taking the small infant for "an airing," be sure that the sun does not shine directly into his face. As was stated before, the body should be protected against cold, but common sense must be exercised to dress the infant according to the weather.

Every infant should be nursed if this is at all possible. When this is not possible, then the physician must be consulted to map out a feeding schedule. For the child that is fed with substitutes for mother's milk, it is necessary that only clean pasteurized milk from tuberculin-tested cattle should be used. It should be kept clean and cool in the home after delivery and be boiled before using. Dipped or loose milk can never be depended on. Fresh milk should be purchased only in bottles. Evaporated, condensed or powdered milk may be used when the doctor orders.

Baby should be protected against disease. The simplest way is never to allow the infant to come in contact with the sick person. This becomes impossible later in life. Therefore every parent should see that baby is protected against diphtheria at 8 months and vaccinated against smallpox before the age of 10 months. Revaccination of the child should be done at the age of 5 years, which is the usual time for entering school. For protection against whooping cough and scarlet fever, each parent should let the personal physician decide as to advisability and need.

Babies are born with the ability to take food and to react to certain stimuli. Thus, when the baby is hungry or uncomfortable he will cry. It is possible therefore to recognize whether a child cries because of hunger, discomfort from wet clothing, pain caused by a pin sticking him, or illness. So long as a child is not hungry, is dry and there are no pins or other things bothering him, he may be crying because he wants attention. Ninety-five per cent of all infants born alive are healthy and normal; with proper training and understanding, more than 95 per cent should grow up without causing their parents any trouble other than the natural worries over unavoidable illnesses.

CHANGES IN TIME FOR YOUR HEALTH

Daylight saving time becomes effective in certain localities May 1, 1938. The Network goes on daylight saving time. That brings the program **YOUR HEALTH** ***to cities on daylight saving time at the same hour as before, but adjacent areas on standard time will receive the program one hour earlier.***

Beginning with the program of June 1, 1938, a change in schedule occurs due to conflicts on the network. **YOUR HEALTH** ***will be heard from 12:30 to 1 p. m., eastern daylight saving time, June 1, 8 and 15.***

REFERENCES FOR THE TEACHER

KEEPING YOUR BABY WELL. Price, 10 cents. American Medical Association.

NURSERY GUIDE by Louis Sauer. Price, $2. St. Louis: C. V. Mosby & Co., 1933.

CARE AND FEEDING OF CHILDREN by L. E. Holt. Fifteenth edition. Price, $1.25. New York: D. Appleton-Century Company, Inc., 1934.

INFANT AND YOUNG CHILD by J. L. Morse and others. Second edition. Price, $2. Philadelphia: W. B. Saunders & Co., 1929.

Texts previously suggested.

SUGGESTED PROJECTS

Six Do's For Baby

A good baby needs:

1. Rest.
2. Play at the appropriate time.
3. Love of both father and mother.
4. Fresh air.
5. Clean and proper food.
6. Protection against disease.

Ten Don'ts For Parents

A good baby does not need:

1. Candy, except small amounts after meals, when older.
2. Pacifiers, thumb sucking, soothing syrup, "patent medicines."
3. Dirty playthings, dirty nipples, dirty bottles, dirty floors.
4. Toys painted with lead paint, toys covered with hair and those which have loose parts which may come off and which the child may swallow.
5. Violent rocking, bouncing and rollicking play at any time.
6. Kissing on his mouth either by the family or by strangers.
7. Baby shows, movies or crowds.
8. To have the temperature of the milk tested by some adult who takes the nipple in the mouth.
9. To have a person with a cough or a cold allowed near him.
10. To be in proximity to any person with tuberculosis.

May 4: Healthier Mothers.—Babies are common everyday occurrences. Reproduction is a natural function of the human body, just as is the digestion of food or breathing of air. On the mother's health depends the health of the infant.

The second Sunday in May is Mother's Day. Among the women who will express their devotion to their mothers on this day are many who, in the not too distant future, will receive their first red carnations. To these future mothers of America we say that today you live in an age of medical science, better than ever before, when the course of safe, beautiful, healthy motherhood can be charted by the doctor. It is up to the individual to take advantage of this knowledge and care. These are hers for the asking.

The first act for the prospective mother is to consult her physician. If she has been in the habit of going for a periodic health examination she has a great advantage. Then most likely there will be no need for extensive corrections.

One of the most common mistakes that the expectant mother makes is to believe that she needs to "eat for two"—in quantity. The ordinary diet may need no change or variation, if it is substantial, wholesome and well balanced and includes milk, fruits and vegetables. Overindulgence should be avoided. The total gain of weight in most cases should not be over 20 pounds. Large quantities of fluid should be taken. From eight to ten glasses of fluid a day besides milk should be drunk. Coffee and tea may be taken in moderation. During the later months, less water should be taken. Cod liver oil should be regarded as a food and not a medicine. This contains the vitamins A and D, which are essential to healthy motherhood and are of primary importance in providing proper building material for the future baby's bones and teeth. Meat in moderate amount should continue as a daily part of the diet. Prejudices against meat are unfounded since meat, like milk and eggs, is a good source of protein. The food should be attractively served and during the first few months it may be advisable to increase the number of meals a day but to decrease the amount consumed at each.

The old belief that exercise is tabu for the expectant mother no longer holds. The modern girl realizes that some exercise is necessary.

Walking is a splendid form of exercise, but the walk should be leisurely, and crowds are best avoided. A walk of two or three miles a day is a good average. Longer walks are not desirable. No exercise should ever be taken to the point of fatigue. Light housework is also considered good exercise. Care should be taken to avoid heavy lifting. Violent exercise in any form should be avoided. Dancing may be indulged in but only for brief periods of time. Driving an automobile should be given up. Automobile riding should be limited, and rough roads should be avoided. Rides should be short.

Bathing is of great importance during this time. The skin should be kept clean at all times but especially during this period because the activity of the skin is greater than usual. The skin is an important organ for elimination of water and salt. The type of bath taken depends a great deal on the person. Shower, sponge or tub baths are equally serviceable. The water is best at a temperature between 85 and 90 F. The cold water bath is stimulating to some persons, but is not as cleansing as the warm bath. For this reason a warm bath is suggested at night, primarily because of its cleansing nature and because of its soothing effects. Cold showers, cold plunges and ocean bathing are best avoided by most women at this time.

Another old belief that is rapidly disappearing is the saying, "A tooth for every baby." There is no need for a mother to lose a tooth. Proper care of the teeth before pregnancy and only the emergency care during the course are advisable. The diet of a prospective mother should be such that every advantage is given to both mother and child.

The demands for hygiene of maternity apparel differ little from healthful dress of any other time. Health requirements for dress are that clothing be light in weight, porous in weave, devoid of tight bands or restrictions of any kind and of sufficient warmth. Experiments with the various fabrics have led authorities to the conclusion that cotton material is best for all clothing that comes in direct contact with the skin. The designers of maternity dresses have developed such skill and artistry that all clothing for the months of approaching motherhood may be not only comfortable and hygienic but beautiful as well.

These suggestions are general and subject to variation because no two individuals are alike. Perfect health and normal conditions demand relatively few sacrifices or changes from one's usual method of living. Imperfect health or abnormal conditions may demand great sacrifices. A baby is the crowning achievement of a woman's life. There is nothing like it! Nothing more important could ever happen to her. Why not safeguard it? Advice and attention are at hand for her to grasp.

H. Armstrong Roberts

REFERENCES FOR THE TEACHER

A CHILD IS TO BE BORN. Price, 10 cents. Chicago: American Medical Association.

MATERNITY CENTER HANDBOOK by Maternity Center Association. Price, $1. New York: G. P. Putnam's Sons, 1932.

Texts previously suggested.

Pamphlets available from local and state health departments.

SUGGESTED PROJECTS

Ask the following questions of some woman of your acquaintance who is old enough to be a grandmother and who has had little chance for education. Then ask the same questions of a young mother who is well informed on health matters. Compare the answers.

1. How should the expectant mother regulate her diet?
2. What exercise should the expectant mother take?
3. What is liable to happen to the teeth of women who have babies?
4. How soon should a woman see her doctor when she expects a baby?
5. How often should a woman see her doctor when she expects a baby?
6. What kind of clothing should the expectant mother wear?
7. Which will have a better chance for life—a "seven months' baby" or an "eight months' baby"?

Visit your local hospital, and note how guarded the nursery is. Notice that small children are not allowed on this floor. See also how adults can view the babies only from a distance and are not permitted in the room in their street clothing or allowed to handle the babies. Why? Ask those in charge if this was always the rule. Note the precautions taken to assure each mother her own baby. What method does your hospital employ—beads, necklaces, anklets, footprints, tanning by ultraviolet radiation or some other means of identification?

May 11: Hospitals Aid Health.—Hospitals today are vastly different from those of years ago. The change from the old to the new has come about so fast that there are still many people not aware of these changes, and their attitude toward the hospital has not changed. Therefore this program is given to acquaint people everywhere with the part in the community that the modern hospital plays as the workshop of the modern doctor.

Modern medicine has become so complex that no one man can master all its branches. Where formerly the doctor needed but few instruments, most of which he always carried with him, today he has at his command great numbers of instruments of precision for the diagnosis of disease, as well as many new treatment facilities to combat sickness. In these phases of medicine the hospital can be of great aid to the doctor; but of course the doctor is the one who must render the service, not the institution.

Not every hospital is entitled to be called modern. That term should be reserved for those hospitals which meet standard requirements set up by national organizations representing the medical profession, including the American Medical Association.

There are two types of hospitals. The first and greater group consists of the voluntary hospitals. These institutions originated from a variety of motives; some are primarily teaching institutions, others are supported by religious groups, and still others are organized by fraternal or philanthropic associations, depending entirely or in large part on private benefactions for their existence. Some are privately owned. The second type is the public hospital, supported entirely or in part by the municipality. This classification includes the so-called city hospitals, county and state hospitals, as well as the hospitals of the United States Public Health Service, Army, Navy and United States Veteran's Bureau and other federal departments. These hos-

(Continued on page 456)

SCHOOL and HEALTH

Conducted by J. MACE ANDRESS, Ph.D.
67 Clyde Street Newtonville, Mass.

BUILDING THE HEALTH CURRICULUM IN THE HIGH SCHOOL: IX

AS A RESULT of the faculty conferences on health education in the Queenstown High School practically every teacher felt some degree of responsibility for the success of a vitalized health program although there was some question as to how the faculty could best cooperate. This problem was in the mind of the principal, Mr. Richards, as the teachers gathered for their ninth meeting of the year. Let us listen in again to the discussion.

MR. RICHARDS: Many of you have expressed your satisfaction with these meetings devoted to health education, but some of you have been skeptical as to whether our talking over things would do much good unless we found some way of organizing ourselves on a permanent basis. I quite agree. Do any of you have suggestions?

MR. STRONG: Something needs to be done to keep the problem before us in a concrete way, as we now think of health, as a way of living rather than the mere memorization of so many pages of printed matter. Could we not gain our end by having an occasional meeting of the faculty to consider our mutual health problems?

MR. RICHARDS: I fear not. It seems necessary to have some sort of administrative unit which will function steadily if healthful living is to be a reality in our school.

MR. WALTERS: Why could we not have a committee to guide our cooperative activities? This committee of the faculty could keep constantly in touch with what is happening in the school, collect information and offer counsel to faculty and principal. Perhaps a good name for such an organization would be the "Health Council."

MR. RICHARDS: This seems to me to be a good idea. We need more discussion. Mr. Walters, how many people should we have in this council? Who should be councilors?

MR. WALTERS: I believe the council should be large enough to be representative of the many-sided interests of our faculty and yet not so large as to be unwieldy. Those teachers who are especially trained in health and are teaching subjects dealing specifically with healthful activity might be considered first. I should suggest a maximum number of five to include such people as our school physician, director of physical education, visiting teacher and perhaps two teachers of regular academic subjects such as instructors in biology and history. The principal would be a member ex-officio.

MISS WALKER: There is another person whom I would suggest for membership. This person occurs to me because of the great need of cooperation between parents and teachers. Would it not be wise to ask the president of the local parent-teacher association to become a member of this council? Mrs. Wilkinson takes a keen interest in all our problems and would take great satisfaction in lending a hand.

MR. WALTERS: A most excellent suggestion.

MR. SCHULTZ: I like this idea of a health council. If we are to deal vigorously and efficiently with our health needs we must all be on the job all the time.

MISS BOUVÉ: I object. That sounds as if we had nothing to do but look after the health of our pupils. I must confess that my chief purpose is to teach French. The board of education hired me for that work.

MR. SCHULTZ: Agreed, just as my function is to teach mathematics; yet I cannot disguise the fact that to learn mathematics, pupils must have favorable physical and mental conditions for growth.

MISS BOUVÉ: I understand. You are right.

MR. WALTERS: May I propose a health council of five members, four of whom shall be appointed from our staff? Mrs. Wilkinson is to be invited to serve as a fifth member.

(A formal motion is then made and passed by unanimous vote.)

MR. RICHARDS: I feel that this means real progress. I shall appoint the members of the council tomorrow. I hope the chairman will have something to report at the next meeting.

It is my purpose to continue these discussions as originally planned for three more meetings. The council will then have had time to convene several times and will be ready for some vigorous work in the next school year. Suggestions should be passed on to this council at any time. Perhaps some of you have something to suggest for next time.

MISS WORTHLEY: I have a problem in mind which I think the newly organized council might consider in the not-too-distant future. I refer to the home work for pupils. This is a matter that is engaging the attention of our best educators today. May I quote from an article, "An Educator Looks At Home Work," by Willard W. Beatty? It is a challenge to every high school. It reads as follows: "The results of a good many educational experiments tend to show that old-fashioned home work never has been a very efficient contribution to the learning process. Supervised study in the classroom produces much more efficient results for the time invested. Therefore during the last 20 years home work assignments have been eliminated from the elementary grades of an increasingly large number of American schools. The movement to substitute supervised study for home work assignments has also reached the junior high school in many communities. The senior high school, however, remains the intrenched citadel of required home

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To Contributors:—*The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

work. It is doubtful that home work will disappear from this part of the educational program until the newer attitudes toward learning begin to penetrate the secondary school and college."

Just at this point in my reading I began to wonder whether we had adopted these newer attitudes toward learning. Have we made a fetish of home study? Are we handicapping our students in their mental and physical growth?

This problem has aroused enough people so that a national association for the elimination of home work has been established with headquarters at 2850 North Pulaski Road, Chicago.

MR. RICHARDS: Thank you for this suggestion, Miss Worthley. It ought to be a challenge to the new Health Council and to us.

BODY BUILDING AND REGULATING FOODS

Vitamin A

ETHEL AUSTIN MARTIN
Director, Nutrition Service
National Dairy Council

The discovery of vitamins is one of the most brilliant chapters in the history of nutrition. There are probably other vitamins to be found and new knowledge to be gained about those that are now known. Mrs. Martin begins in this article a discussion of the place in the diet of the vitamins and how knowledge about them is to be applied in the classroom.

THUS FAR in the present nutrition series three essentials of an adequate diet have been discussed: calories, proteins and mineral elements. A fourth and final group of essentials—the vitamins—will be considered in this and succeeding articles of the series. Vitamins take their name from the Latin word *vita,* meaning life, and were so named because of their life-giving properties. Vitamins are said to be to the human machine what the ignition spark is to the automobile.

The first vitamin was discovered little more than twenty years ago. Since that time, others have been added, one by one, until there are now some six or more, and each in turn has been designated by a letter of the alphabet. Originally vitamins were believed to be related in composition because of apparent similarity in functions. It was soon learned, however, that this was not the case. As the various vitamins have been studied carefully and in some cases identified chemically, they have proved to be separate entities, each with its own distinct functions. In the discussions which follow, therefore, each vitamin will be treated separately. Vitamin A will be considered first, followed by the other vitamins in the remaining articles of the series.

Vitamin A Necessary for Good Health

Vitamin A is essential to growth throughout the period of youth and to normal nutrition and health at all ages. This statement epitomizes the positive, constructive importance of vitamin A to the development of fitness of the body. The most exact information on the benefits to be derived from enough vitamin A and the consequences of a shortage of it in the food supply has come from experiments on laboratory animals. Thus it is possible to add or withhold the vitamin at will and observe the effect on the animals. As a result, on the one hand, with a diet which is rich in vitamin A and adequate in all other essentials, excellent growth, satisfactory adult size, long life and successful rearing of young are observed. On the other hand, varying degrees of vitamin A deficiency result in stunted growth, weakening of the body, respiratory infections of various types, night blindness and finally, in extreme cases, a dread eye disease called xerophthalmia. Most important to us, however, in making the application to our own living habits is the convincing evidence that liberal amounts of vitamin A are essential to buoyant, vigorous health.

It is believed that the infections which arise from lack of vitamin A are due to changes which take place in the lining of such parts of the body as the nose, throat and digestive tract. When the body is weakened in some manner by a lack of vitamin A, infections develop; when it is strengthened by an abundance of vitamin A, protective forces build resistance to infection. In his book "Chemistry of Food and Nutrition," Dr. H. C. Sherman of Columbia University discusses the various angles of the relationship of vitamin A to infection and concludes with the statement that "the level of intake of vitamin A does (whether directly or indirectly, primarily or secondarily) influence the frequency, or severity, or duration of infectious diseases—not specifically of any one infection alone, and also not equally of all infections."

Doris E. Wright

Origin of Vitamin A

We obtain vitamin A from the foods we eat. In order to understand the distribution of vitamin A values in foods it is necessary to know something of the interesting origin of vitamin A. All vitamin A values are traceable to carotene, the yellow coloring matter in plants. Human beings and other animals can transform the mother substance, carotene, into vitamin A in their bodies. Carotene and vitamin A, as such, have essentially the same value in nutrition. Therefore we obtain our vitamin A values in two ways: (1) directly, when taken as carotene in vegetables and converted into vitamin A in our own bodies; and (2) indirectly, as in milk, when the cow has eaten the grasses and has converted the carotene into vitamin A for us. In neither case is the conversion complete. In milk and eggs, for example, the total vitamin A value of these products is due in part to carotene and in part to the converted vitamin A. By the "indirect" method, farm animals render an important service to human nutrition for they can make vitamin A available from leaves of coarser quality and from larger amounts of them than we would care to eat even if we could. Concentrates of vitamin A are on the market in various forms. It is believed, however, that concentrates are not required if the diet is adequate and that they should be used only in special cases on the recommendation of a physician.

Sources of Vitamin A

The best sources of vitamin A in the human diet are (1) whole milk and products of milk which contain a significant amount of its fat such as butter, cream, ice cream and "whole milk" or cream cheese, (2) eggs and (3) green and yellow vegetables. Practical considerations, such as the regularity with which these foods are eaten and the amounts usually taken, must enter into the choice of a diet adequate in vitamin A. For example, several green and yellow vegetables yield more vitamin A per ounce than does milk, but milk and its products are staples eaten every meal

Foods	Amounts	Vitamin A Units (Sherman)
Milk	1 quart	2,080
2 vegetables		
Peas	⅓ cup	300
Lettuce	⅙ head	100
2 fruits		
Orange juice	½ cup	65
Prunes	4 medium	825
Eggs	1	940
Total		4,310

while vegetables of low vitamin A value are often used, and vegetables, in general, are served less frequently. Thus milk and butter, although varying somewhat with the carotene content of the cow's feed, constitute a basic source of vitamin A. Other dairy products as well as eggs and green and yellow vegetables add to the vitamin A content of the diet in proportion as they are regular items of diet. Often there is great seasonal variation in the consumption of the latter foods.

The term "green" vegetable should be interpreted literally, for the outer green leaves of head lettuce, for example, may have thirty times as much vitamin A as the white inner center. In general other parts of plants are lower in vitamin A value than the leaves. Most roots and tubers are very low in this value. Carrots are a notable exception to this. Sweet potatoes and yellow turnips contain some vitamin A, the amount varying somewhat with the depth of color.

The liver, the organ in which the transformation from carotene to vitamin A takes place in the animal and where surplus vitamin A is stored, is also a source of vitamin A. However the relatively small amount of liver eaten and the variability of it as a source of vitamin A, depending on the amount in the feed of the animal, lessen its importance. Muscle, meat and fat of animals are poor in vitamin A regardless of how the animals are fed.

Amount of Vitamin A Needed

Within recent years various measuring sticks for vitamin A values in foods have been applied. Such measurements have led in turn to estimating body needs, both measures being expressed in terms of vitamin A units. Nutrition authorities have proposed that growing children of all ages should be given from 4,000 to 6,000 units of vitamin A daily. Following the plan of previous articles let us now estimate the vitamin A content of a specific diet. Let us see, for example, whether a girl of 10 years needing about 5,000 units of vitamin A daily can obtain the required amount if she takes daily the "protective" foods, milk, vegetables, fruits and eggs in the quantities usually recommended.

The table shows that the "protective" foods, taken in the amounts specified, supply a substantial proportion of the needed vitamin A. Several points must be borne in mind, however. Vitamin A can be stored in the body, and several times the amount actually needed must be taken before storage is possible. Storage of vitamin A is much to be desired for it not only serves as a reserve supply in case of need but supports buoyant health at all times. The protective foods as listed in the table may be regarded therefore merely as a *foundation* supply on which to build for a more liberal vitamin A intake. The daily use of green and yellow vegetables in adequate amounts, the regular use of eggs and the habit of including milk and butter with daily meals make a good pattern to follow in constructing a diet rich in vitamin A.

Application to the Classroom

The importance of vitamin A to good nutrition, the concentration of vitamin A in protective foods and the relative scarcity of it in other food groups make emphasis on protective foods a suitable activity at this point. The protective foods have been stressed in previous lessons for their value in other respects; therefore their richness in vitamin A is merely an added reason for using them daily in adequate quantities. The health habit questionnaire, proposed in the second article of this series, may well be repeated at this time particularly for the purpose of checking the habit of using protective foods regularly. If it seems desirable the questionnaire may be confined to the lower grades, and mothers may be asked to furnish the information.

Older children may be asked to record the meals they have eaten during the past twenty-four hours and then check up roughly on the vitamin A content and more particularly the amounts of protective foods which have been included. Emphasis on the importance of vitamin A to health and vitality may be considered fully at the high school level, for at this age, appearance, skill and efficiency are greatly desired. This should be followed by study and discussion of food sources of vitamin A. Actual estimates of present vitamin A intake, based on meal records, and planning meals adequate in vitamin A content offer a practical method of acquainting students with vitamin A values which help them in forming the habit of choosing adequate amounts daily.

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PRINCIPLES FOR MAKING HEALTH UNITS IN THE PRIMARY GRADES

GERTRUDE SONNER
First Grade
MELINDALE, MICH.

In many schools today the old-time lesson of so many pages assigned is giving way to unit activities. It is inevitable that there should be much discussion and confusion as to what constitutes a unit and how it is to be organized. A first grade teacher suggests principles which she believes should guide the primary teacher in making health units.

THE ideal approach to health instruction in the primary grades is through the unit or activity method. A unit of teaching is a series of coordinated activities relating to one phase of study and made purposeful through guidance. It is sometimes difficult for a teacher to formulate desirable units of health teaching for small children. The following are some underlying principles which might be helpful in aiding primary teachers to put theory into practice.

There should be a desire for the unit on the part of the child: One important principle for unit building is that the child should feel a desire for the activity, which means that, first of all, he must be made health conscious. Of course the child should be led to find satisfaction in his own activities instead of being induced to participate through point systems, prizes or awards, but such things are sometimes helpful in arousing interest in the primary grades. Interest in health may be established through the activities connected with the morn-

(Continued on page 459)

TO AMERICA'S SCHOOLS—YOUR HEALTH (Continued from page 452)

pitals are primarily for the care of the indigent sick and those privileged by law to hospitalization at government expense though able to pay.

The responsibility for the administration of the hospital is twofold. One is the clinical or medical, which concerns itself with the visiting and resident medical staff, dentist, pharmacist, nurses, dietitians, laboratory workers and, most important of all, the patient and his family. The business responsibility concerns itself with the employees, engineering, housekeeping, auditing and purchasing problems.

The hospital itself is often divided into an outpatient and inpatient department. The major function of the hospital is to provide facilities and personnel to assist the physician in preventive medicine, diagnosis, treatment, teaching and research. Treatment and diagnosis appear to be the most important to the patient, because they concern him directly, but all the other functions are equally so.

The hospitals of today bear practically no resemblance to those during Joseph Lister's time, three-quarters of a century ago. In Lister's day, hospitals were built on land which was of little value for anything else. Not infrequently, they were built on marshy lands. Today the choicest sites are none too good when a new hospital is contemplated. Lister's hospital wards were long, wooden buildings with carpets on the floors. The windows were not opened at night for fear of danger from the night air. When the floors were swept, clouds of dust rose and settled on the beds of the patients. The lack of ventilation caused the accumulation of nauseating odors. Attendants were of the more ignorant type, who would be willing to submit to all sorts of inconvenience and to endure many disgusting sights and odors. Contrast this picture with the gleaming, immaculate hospitals of today.

Philip D. Gendreau

Today, cleanliness reigns supreme in the modern hospital—not cleanliness as even the best of housewives understand it but surgical cleanliness, which means the banishment of dirt and the elimination of germs by sterilization. With live steam, boiling water or chemical antiseptics the surgeon and the highly trained surgical nurse wage incessant warfare against infection. Every comfort of the patient is attended to; cheerful, comfortable rooms and wards, good beds, adequate and proper diet and careful nursing by well trained persons is the rule in the hospital of today. Add to this such important accessories as the well equipped operating room, the maternity floor, the laboratory, the modern laundries, the well equipped kitchen, the circulating library and the social service department, and you have a service to the sick which was not even dreamed of by such persons as Joseph Lister and Florence Nightingale, Ignaz Semmelweiss and Louis Pasteur, who made their respective contributions to aseptic surgery, to nursing, to bacteriology and to the conquest of childbed fever, little dreaming what modern genius for organization would make of their individual achievements.

Since about 1931, medical societies and hospital associations have been experimenting with many plans to assist persons with moderate incomes to receive more complete medical and hospital services. Of these, group hospitalization plans are most widely known. Under such plans a hospital or an association of hospitals contracts with groups of persons to furnish specified hospital services when needed in return for the periodic prepayment of a stipulated sum by each member of the group. At present, at least sixty-eight group hospitalization plans, representing 589 or more hospitals, are in operation throughout the United States and have enrolled about 1,500,000 members. For an annual rate of about $10, members are entitled to twenty-one days of hospital service, as specified in the contract. In some localities small insurance companies have been organized to sell a policy closely resembling the group hospitalization contract.

Most of these hospital service or insurance plans have been in existence for only a few years, and many legal, actuarial and ethical problems remain to be solved. Medical societies and hospital associations are endeavoring to develop the best features of these plans for the benefit of the members and, at the same time, for the advancement of good medical and hospital practices.

On May 12, the birthday of Florence Nightingale, the hospitals of America observe National Hospital Day, when their doors are open to the public so that you may see some of the things that are being done for you in these great institutions. The modern hospital truly represents one of the most magnificent of all modern achievements, and by seeing for yourself, you can appreciate better its significance for the present and its possibilities for the future.

REFERENCES FOR THE TEACHER

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DISEASE AND DESTINY by Ralph H. Major. Price, $3.50. New York: D. Appleton-Century Company, Inc., 1936.

Articles from HYGEIA, The Health Magazine.

SUGGESTED PROJECTS

On May 12, National Hospital Day, visit your local hospital. If possible, ask some older physician in your community to give you a contrasting picture of hospitals of long ago. If there are in your community both types of hospitals, namely, the private and public hospital, visit both, and then prepare a paper describing the two institutions.

May 18: Runabouts, 1938 Model.—Three million children will go to school this fall for the first time. To most of them, it will be the first great adventure away from home. There are various problems that they will have to meet and also problems that they will present to teachers and other pupils—pugnacious Peter looking for new worlds to conquer, tearful Tommy wondering just what will happen and shy Sue who has always stood on the sidelines—these are but a few. The future parents of the Peters, Tommies and Sues, who today may be the big brothers and sisters of youngsters just like them, must know of these problems and learn their solutions in order to help get them ready for the big adventure.

It is fair neither to the child nor to the school to permit enrolment if there is a physical, a mental or an emotional problem which can be adjusted.

Schools exist for the purpose of guiding and directing children toward a goal of self achievement. It is not their job merely to teach facts but also to develop sound character and to instil ambition and

CHANGES IN TIME FOR YOUR HEALTH

Daylight saving time becomes effective in certain localities May 1, 1938. The Network goes on daylight saving time. That brings the program YOUR HEALTH *to cities on daylight saving time at the same hour as before, but adjacent areas on standard time will receive the program one hour earlier.*

Beginning with the program of June 1, 1938, a change in schedule occurs due to conflicts on the network. YOUR HEALTH *will be heard from 12:30 to 1 p. m., eastern daylight saving time, June 1, 8 and 15.*

a keen desire to become wholesome men and women.

Children often fail right at the start of school because of faulty vision or hearing. Many cannot breathe properly because of obstructions of the upper respiratory tract (tonsils and adenoids). Some have been fed so poorly that their muscles lack tone and that they slouch when they stand or walk, and they sit with round shoulders or crooked backs. The child that is to be ready for school the first day needs to be fit physically, mentally and emotionally. Physical defects must be discovered and corrected. The child must have received protection against smallpox by vaccination and against diphtheria by toxoid. The personal physician should give advice regarding protection against other contagious diseases such as scarlet fever and whooping cough.

The Summer Round-Up of Children is one of the activities of the National Congress of Parents and Teachers which has caught public imagination because it deals with children and because it is a useful project which has demonstrated its value. This project should not be regarded as separate, distinct or isolated but merely as one step in the general program of the growing child toward better health. The first step is taken before birth and resolves itself in the prenatal care of the mother; the second step is taken during infancy, and the third during the preschool years. Subsequent steps are taken later in life.

The Summer Round-Up consists of three principal phases. The first is the awakening of the community to the need for guarding the health of its "runabouts." Demonstration of the need must come before any constructive steps can be taken to meet the need. The second step is ascertaining the physical condition of the preschool child. This can be accomplished only by adequate physical examination. Such examination must be made by the physicians in the community. It is best made in their own offices. It should be paid for like any other medical service but should be free to those unable to pay. The third step is translating the observations of physical examinations into appropriate action for correction. This is dependent on medical and hospital facilities in the community.

The parent and teacher group in a community has as its job the first phase of the round-up. This should not be a lone and independent project but should be tied up cooperatively with all other community health movements, particularly those relating to childhood. When, by means of the round-up, the child has had a careful physical examination, and it has been determined that the runabout is free from badly decayed teeth, poor eyesight, impaired speech, bad hearing, posture defects due to rickets, as well as other remedial defects of the upper respiratory tract, only then can the school be assured that it will have delivered to its beginning classes, children in excellent physical condition, able to take up the amount of work demanded at the beginning of school life.

Since body and mind cannot be separated, the child must be mentally sound. As an illustration, there is the case of a belligerent child, the terror of the class and neighborhood, who was found, on examination, to have defective vision. He was able to see only 30 per cent of what he normally should see. Correction brought about a miraculous change. The child was not to be blamed because his actions previous to the vision correction were calculated to maintain his self respect in the only way he knew. Therefore, to prepare the child psychologically, the following rules will be helpful:

1. If he is bright and active, do not have him show off to satisfy your own vanity.
2. If he is slow, be patient. Do not expect too much of him. He may be a slow beginner; therefore, give him time.
3. If he shows ability along some lines, be patient and remember that intelligence unfolds more quickly along some lines than others. Never compare him with other children.
4. Bashfulness or oversensitiveness can be discouraged by giving him opportunity to play with children his own age. Give him things to do which you know he can perform easily, and thus you will aid in developing self confidence.

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The Child from One to Six by Ada Hart Arlitt. Price, $2. New York: McGraw-Hill Book Company, 1931.

SUGGESTED PROJECTS

1. Bring a list of names of children in your own neighborhood who are ready to enter school. These can be given to the P.-T.A. Group for follow-up.

2. Because of the value of the Summer Round-Up, students can be of actual service, aside from furnishing the names of prospective children.

   (a) During the Round-Up the students can volunteer to take care of the house of any mother who wishes to take a child to the physician for the Round-Up examination.

   (b) Students with automobiles can volunteer to "taxi" mothers and children to the physician.

   (c) See that members of your own families are given the opportunity of Round-Up examination.

May 25: The Health Check-Up.—In 1861, not long after the introduction of anesthesia and before the work of Lister and Pasteur, an English physician, Horace Dobell, wrote:

"I am perfectly convinced from my own observation and experience in practice that patients never think of consulting their doctors until conditions of impaired general health have advanced far enough to have been developed into some form of disease, and that thousands of people believing themselves to be in good health are nevertheless undergoing early occult and evasive stages of defect in the physical state. I then propose, as the only

Philip D. Gendreau

means by which to reach the evil and obtain the good, that there should be instituted as a custom a system of periodic examination to which all persons should submit themselves, and to which they should submit their children."

This was more than seventy-five years ago. In all this time, people paid little attention to the suggestion, and throughout the years many physicians have urged, preached and pleaded for a more universal adoption of this practice. While curative medicine is still important, preventive medicine is the aim and goal of the modern physician.

The details of such periodic health examinations will vary for several reasons. They vary with the individual and with the community, as to how they should be conducted, and who shall do the examining.

It is most reasonable to believe that all individuals desire good health. Yet most individuals assume themselves to be perfectly well, and only those who feel that they want to be sure of it will demand and seek out their physicians for such a check-up, just as the individual takes his watch and his car to the repair shop for overhauling and repair of defects before there occurs a complete breakdown.

The physician who conducts these careful physical examinations has a standard of the normal person well in mind, and therefore the beginnings of certain diseases or tendencies toward them may be detected while they are still in the early stages, and curable. It is not conceivable that every ailment of mankind can be prevented in the present state of our knowledge, but the more important groups of diseases, or the tendency toward them, can be detected sufficiently early to bring about prevention, and if not that, then cure often becomes a simpler process.

In the disturbances of the digestive organs the periodic physical examination is of great importance; those conditions which tend to become chronic can often be detected at the earliest possible moment.

Tuberculosis is a preventable disease. For this reason, early detection greatly enhances the chances for cure. A leading authority on diabetes says, "It is well known that diabetic patients come too late for treatment. If the disease is detected early, it is far more susceptible to diet. It is easier to diagnose than tuberculosis." Cancer, one of the leading causes of death, is one of the outstanding examples of what early recognition and early diagnosis can accomplish. The whole success of operative treatment for cancer depends on early diagnosis.

If the periodic health examination is to be of any value it must begin in very early life. The examination itself does not assure perfect health. It can do no more than to point out the existing defects, and it provides an opportunity for the physician to discuss the hygienic habits of the individual.

The family doctor, a general practitioner, is the individual to make examinations of this type and to determine their frequency in each case. According to one distinguished practitioner, "Any physician not competent to undertake such an examination is not competent to be a family physician."

REFERENCES FOR TEACHERS

Texts previously suggested.

SUGGESTED PROJECTS

There is only one thing that the student can do. See that each one obtains for himself a health examination and then continues this practice throughout life.

[NOTE.—HYGEIA will publish in this department each month similar briefs of programs to come during the succeeding month, with reading references and suggestions for things to do. Reprints of this section are available in bundles of twenty-five at 50 cents a bundle, postpaid, cash with order, for use in schools. Single copies, 5 cents. Address Order Department, American Medical Association, Chicago.

This department and the radio program are under the direction of Dr. W. W. Bauer, Associate Editor of HYGEIA and Director of the Bureau of Health and Public Instruction, American Medical Association. A workbook entitled "Your Health" has been prepared to accompany the programs. It is published by Johnson Publishing Company, Richmond, Va.]

Keystone View Company

FORECAST—

The month of leaves and roses,
When pleasant sights salute the eyes
And pleasant scents the noses.
—N. P. Willis.

In June, thoughts turn vacationward, and *D. P. Kennett* and *Richard Fechheimer* collaborate to bring "℞: One Sailboat," a tale of pleasure and profit aboard a boat. . . . *Dr. Frank Howard Richardson,* in "You—and Your Child's Camp," tells what the camp should demand of the parent and what the parent should demand of the camp.

In June, doctors from all over the country will trek westward to San Francisco for the American Medical Association convention. In their honor, *Hygeia* presents "Scientific Progress in Diabetes" by *Dr. Frederick M. Allen;* "Speaking of Operations" by *Margaret McEachern* and "The Doctor Is a Detective" by *Dr. Solomon Strouse.*

In June, the housewife's attention turns to tempting and wholesome summer foods, and *Dr. Russell M. Wilder* gives her an article entitled "Food Facts and Fallacies," in which he tells what the American Medical Association is doing to help her protect her family. . . . *Harriet Morgan Fyler* intrigues the interest with "June Brings the Freshest of Vegetables."

SCHOOL AND HEALTH (Continued from page 455)

ing inspection. The child soon learns to check up on himself in the mirror to see that his face is clean and his hair combed. Emphasis in the primary grades should be on habit formation.

A health unit should consider the child's needs and his environment: In order to meet the child's needs, units of health should be based on his environment. Units have been successfully worked out in connection with the home. Such a unit might be subdivided into studies and activities relating to members of the family, pets, food, clothing and shelter. No teacher needs to be concerned about correlation in health activities, for if she plans a lesson consciously for health experiences, health knowledge and health attitudes, it naturally furnishes materials for other subjects. Health plays provide for the need of oral expression and are good teaching units if they promote worthwhile habits and interests. Safety units are valuable for small children, and if there is a particular danger connected with the child's environment in the neighborhood, it may be the subject for a safety unit.

The aims of the unit should be applicable to the child's environment: Any unit whose aims are impossible for the child to carry out will be of little value. If the teacher knows that some of the children can have only a small amount of milk, it would be better to say "Drink as much milk as possible" rather than "a quart of milk a day." Teaching the child to wash his hands will be of no value unless provisions are made for children to wash their hands at school. If chewing food slowly is stressed, the lunch time should be supervised and children should not be allowed to gulp down their food in big mouthfuls and rush out to play.

A health unit should be positive, not negative: Many persons find it easier and seemingly more effective to say to a child "Don't do that" than to say "Do this." Negative instruction is easily understood by the child, because he has had experiences in many situations and can apply his practice to a new situation. Yet though the fear in negative teaching makes it immediately effective, in most cases positive instruction can be given and will ultimately be more liberalizing.

A health unit should develop the attitude of health as a means and not an end: The child should be taught that health is a means to a higher end and never an end in itself. First aid exercises are useful methods of teaching service to others. With young children it is better not to go too deeply into the subject of first aid. They need a few simple facts and should understand only the simplest treatment for small injuries. The use of games offers an approach to children who have undesirable behavior patterns and gives the teacher an opportunity to develop qualities of good sportsmanship, endurance and courtesy. Underlying all health teaching should be the idea of service to others. The child should value health because it will enable him to take care of his family and meet the world with a smiling face and cheerful disposition, and he should learn the fact that he who considers first the welfare of others is a happy person.

SCHOOL HEALTH MOVES ON

Girdling the World Through the Exchange of Experiences

SALLY LUCAS JEAN
Executive Secretary, Health Section, World Federation of Education Associations

Among the militant leaders for child health is Miss Jean. She gives a brief report here of some of the papers read at the health section of the World Federation of Education Associations at Tokyo, Japan, last summer.

TODAY in every part of the United States, teachers are planning for health instruction in classrooms, while school administrators are working out health programs for their school systems. Also, health protection, health service and recreational opportunities are being developed by public health officers, doctors, dentists, nurses and physical educators.

It is thrilling to realize that planning of this kind is going on in every country of the world with varying degrees of success and that each country has something to contribute as well as to learn from the others.

The Health Section of the World Federation of Education Associations was formed in San Francisco fourteen years ago with the distinct purpose of creating a means of exchanging knowledge and experiences between leaders concerned with health promotion through the schools. The organization has functioned continuously through the years, with conferences biennially in Scotland, Canada, Switzerland, United States, Ireland, England and one regional meeting in Hawaii.

Last August the seventh biennial meeting was held at Tokyo, Japan, with 347 members present from nineteen countries. The contributions on various phases of health education, health services and physical education were prepared by thirty-five leaders from fifteen countries. It is possible to summarize only a few of the papers here but a report of the proceedings of the conference will be available through the Health Section Secretariat within a few months.

Dr. James F. Rogers of the Office of Education, Washington, D. C., in an excellent analysis of school medical inspection in the United States, emphasized the educational aspects of the medical examination. "The child is given evidence that he is a mechanism which may get out of order, and which needs a periodical looking over if it would be kept at its best."

Certain trends in health and physical education were stressed in a paper prepared by Mr. Russell L. Durgin, honorary secretary of the Tokyo Y. M. C. A., as a representative of the American Association for Health and Physical Education, a department of the National Education Association.

More and more, all types of physical exercise are being accompanied by a joyous spirit of play, with increasing attention to helping students in the acquisition of a certain amount of skill in doing at least one thing well.

Research in the fields of physical fitness and physical adjustment tests with an attempt to discover the real capacity of each individual are being conducted with the view of assigning individual activity, or rest programs, as may be indicated.

Preparation for the use of leisure leads to planning community programs requiring flexible and highly trained leadership.

"Awards and prizes should be eliminated, or reduced to a minimum."

The American Association for Health and Physical Education has recently adopted a report embodying ten cardinal points in its platform of health and physical education, the first of which includes adequate health examination, comprehensive protection, control of communicable diseases, healthful school environment, and hygienic standards in the entire curricular and extracurricular life of the school.

Dr. Mariano Icasiano, chief of the section of school health supervision of the bureau of health of the Philippine Islands, reviewed various methods used to stimulate the interest of school children in health practices. He is convinced that the 27,000 teachers in the schools of the Philippines can most effectively

promote the health of the million school children of the islands through the A-1 Child Health Program, in which each of the health essentials is stressed and a general rating is conducted once a month in every school, the preliminary reckoning being done by the classroom teachers. Children chosen by the teacher are then sent to the nurse for final rating.

Child Health Day, which has become a national affair in the Philippines, is celebrated annually on the first Tuesday of September, when the school having the highest percentage of A-1 children is awarded suitable recognition. On this occasion all A-1 children proudly wear on their breast their distinctive badges and ribbons. It has been found that this program not only stimulates the children but also their parents and teachers as well. The resourcefulness of doctors, nurses and dentists is taxed to the utmost, to assist the children in securing the necessary correction of defects and to furnish guidance to them in the practice of health habits.

Monsieur L. E. de Gielgud, undersecretary general of the League of Red Cross Societies, stressed the health phases of the Junior Red Cross program. "There are now between 17 and 18 million members throughout the world. . . . Europe, Asia, Africa, America, and Oceania are represented in these figures. . . . There are 43 Junior Red Cross magazines, their number having increased from 27 to 43 in ten years. . . .

"The Junior pledges himself to keep the health rules because he understands that it is his duty to do so. Health and service also touch when Juniors use their service funds to provide treatment for their poorer comrades, send them to summer camps, preventoriums and convalescent homes. . . .

"The Junior's zeal for health expresses something of the crusading spirit. It is not for himself alone that he seeks health. The Red Cross teaches him that communty and national health is largely a matter of individual health, so he comes to realize that the efforts of himself and his group toward a healthy life, combined with similar efforts being made by Juniors all over the country, and in other countries too, may have a beneficial effect upon the health of the whole world. . . .

"A report from the Gold Coast tells of a Junior Group having spent a holiday helping to install improved water supply in a village. It was here that a native chief was persuaded to relinquish his belief that worms were good for digestion.

"In every country where it is organized the Junior Red Cross is the active ally of the school doctor and nurse. It is also an effective collaborator in campaigns against various diseases, such as tuberculosis, malaria, blindness. In Greece, the Junior Red Cross has received the official thanks of the government for its work in combating malaria, and in India the Junior Red Cross is especially concerned with the prevention of blindness. This work is being done in the schools by means of posters, slides, small films, special pamphlets.

"In Jugoslavia, the Junior Red Cross school health institutions have had a very definite influence on the improvement of rural health. The school canteens are organized on a national scale. Besides providing one or two adequate daily meals, they teach the pupils elementary dietetics, for in most cases, it is the Juniors who prepare the food. They also provide an object lesson for the population in the improved health of the children. School baths, vegetable gardens, fountains, playgrounds, have all had a part in raising the standard of village life. . . .

"Having learned the importance for health of good well kept teeth, the Juniors have accepted it as a duty for the group to have good teeth. If all the members cannot afford to pay for treatment, the group usually undertakes the expense as a collective activity. Thus we have Juniors paying for dental clinics, buying toothbrushes, etc., until we reach the large-scale activity of the Philippine Juniors who maintain over a hundred traveling dental clinics with dentists, visiting schools and villages in the remotest parts of the Islands.

"The scourge of childhood, infantile paralysis, and its almost invariable crippling after-effects, has lost much of its terror in many countries owing to the work of the Junior Red Cross. In Australia, for instance, the Junior Red Cross of Victoria maintains an almoner who spends her entire time following up cases and seeing that the children get the best possible after-care. In addition, the intermediate groups i. e. those Juniors who have left school, have provided motor ambulances to take the children to hospitals for treatment. Canadian Juniors, through the nation-wide Crippled Children's Fund, provide hospital treatment, remedial operations, orthopedic appliances, etc., for children whose parents cannot afford the necessary care. Convalescent homes or preventoria are maintained in many countries. The States of New South Wales and South Australia have made a special feature of this, and all the Juniors combine to support these homes. In Hungary, all the Junior groups in the country united to build and equip a convalescent home and an outdoor school and summer holiday home, which they continue to maintain by their contributions. In nearly all countries, the summer colony is an important feature of Junior Red Cross health work. . . .

"In India, the Juniors carry on regular propaganda campaigns in the villages, giving lectures, and demonstrations, persuading the villagers to adopt a more sanitary mode of life, helping the authorities by discovering and notifying cases of epidemic disease. . . ."

If space permitted it would be possible to quote from other interesting papers showing that the health education movement has now become worldwide in its scope.

The membership of the World Federation of Education Associations aggregates 200 educational groups in twenty-six countries.

The Health Section Secretariat is in contact with about 450 leaders who are responsible for health programs involving millions of school children in sixty-eight countries.

ALL IN THE DAY'S WORK

MARY B. RAPPAPORT
Health Teaching Supervisor
Onondaga Health Association
SYRACUSE, N. Y.

How easy it is to misunderstand a child and how quickly a teacher's problem may clear up when she gets an insight into his life! This was especially true of Jack whom Miss Rappaport tells us about in the following article.

"BUT I can't have him disturbing the whole room!" Miss Jones' voice showed how much she was bothered.

"Of course not. Is there anything he likes to do?"

"He is clever with his hands. Look at this garage that he made."

The boy whom we were trying to help had been a problem for several years. His teacher last year had been able to establish a friendly relationship, but this year he seemed to be reverting to his old habits.

Miss Jones decided she would try to gain Jack's confidence, even at the sacrifice of some of her discipline.

At the next conference she told me that Jack had been absent from school several days. Through some friends she found he had been caddying at the golf club. Miss Jones and Jack talked it over. She was amazed to find out that he had skipped school to earn some money to buy his sister's school books. This changed Miss Jones' conception of the problem.

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New Books on Health

SCHOOL NURSING

Second edition revised. By Mary Ella Chayer, R.N., A.M. Price, $3. Pp. 329. New York: G. P. Putnam's Sons, 1937.

ALL school nurses were familiar with this book on school nursing in its old form. It was practically unique in its field and was regarded as *the* authority. Miss Chayer has thoroughly revised her book. New material has been added to each chapter, and the bibliography has been brought up to date. The new book has profited from the progress made in the school nursing field within the last six years. It will be welcomed by school nurses who wish to bring their service up to a high standard and also by teachers who wish to understand the function of the school nurse and who desire to cooperate with her.

J. MACE ANDRESS.

IN THE LIVES OF MEN

By Alan Hart. Cloth. Price, $2.50. Pp. 451. New York: W. W. Norton & Co., Inc., 1937.

TAKING as his setting a boom city of the Pacific Northwest, a town which suffers mightily with growing pains, the author tells the story of a doctor's influence on the lives of those with whom he works.

Fairharbor, optimistically referred to as the City of Destiny, is the home to which young Jim Winforth returns after his years of medical study in New York and Vienna. Through his eyes the reader watches the tangling and untangling of the threads that link Fairharbor's "royal" and not-so-royal families; watches the development of its social problems, important and petty, and of its battles, political, religious and journalistic. Through Dr. Winforth's ears—but never through his mouth—the reader hears its secrets, ambitions, loves, hates and jealousies.

The many characters are convincingly and consistently portrayed, and one has the feeling that they have actually lived and been a part of the growth of the Northwest.

LEOLA J. HARRIS.

[NOTE.—Books reviewed or mentioned in this section, other than those published by the American Medical Association, should be ordered from booksellers or direct from the publishers. They may not be ordered through HYGEIA or the American Medical Association.]

THE BIOLOGY OF HUMAN CONFLICT

By Trigant Burrow, M.D., Ph.D. Cloth. Price, $3.50. Pp. 435. New York: The Macmillan Company, 1937.

THIS book is difficult of comprehension. The author repeats endlessly his theories that human conflict, including wars and strikes and all the other manifestations of an upset world, are due to man's departure from his primitive reactions as a whole organism and the substitution therefore of symbols which take the place of reality. He postulates that all so-called normal persons are somewhat abnormal, including the psychiatrists who study them. The old Quaker said the same thing, more simply and understandably, when he remarked that "everybody seems a little queer except me and thee, and sometimes I have my doubts about thee."

Dr. Burrow, with a vocabulary which tends to stun the average reader, says the same thing over and over again but offers nothing practical or even enlightening which this reviewer is able to discern. The book, ostensibly intended for lay readers, is so involved with psychiatric terminology that no person without an extensive training and experience in that field could possibly evaluate its theories. This review is not concerned with the validity of the claims made in the book but with the fact that the thoughts are so concealed in phraseology that the book offers nothing constructive or helpful for the lay reader.

The Lifwynn Foundation, a study and research group on whose observations the book is based, is often referred to but never adequately described. Nor are the study methods described in a manner which would give a clear idea of the observations and experiments carried out. The presentation is such that the lay reader, and many a medical reader, would be no wiser when he finished than when he began, but much wearier. Much of the repetitiousness which is so objectionable seems attributable to the fact that many of the chapters have appeared before in psychiatric journals and inadequate editing has allowed much material to remain in each which has already been presented in previous chapters. There is a glossary, but even this does not overcome the main objection to the book; namely, its obscure, involved and difficult style.

W. W. BAUER, M.D.

Ivan Johnson

CHILD CARE AND TRAINING

By Marion L. Faegre and John E. Anderson. Fourth edition revised. Cloth. Price, $2.50. Pp. 327. Illustrated. Minneapolis: The University of Minnesota Press, 1937.

THE authors have kept their small encyclopedia on child care and training up to date. Throughout the volume the keynote seems to be simplicity and common sense, which is well illustrated by the titles of the chapters. At all times these authors must have been aware of reading fatigue, so that there are no long stretches of text, tiring to the eye and the mind. As a relief the chapters contain tables, graphs and subheads orienting the reader at every step. There are a series of summary questions and suggestions on the chapter contents at the end of each chapter. Finally, references pertaining to the chapter material are appended. An interesting section is an inclusive list of books for reading. The chapter on play describes the type of plaything appropriate for various ages.

Altogether, this edition, like its predecessors, can be enthusiastically recommended to all whose work pertains to child care and training.

I. HARRISON TUMPEER, M.D.

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ELECTRIC and MAGNETIC CURE-ALLS

(Continued from page 441)

type slightly in shape but mainly in the fact that this magic piece of gaspipe was filled with a stick of carbon and sold for $35. To aid in the sale of the Oxydonor, Sanche propounded the theory that all diseases were caused by a lack of oxygen; he claimed that his device developed a previously unknown—and still unknown—force that he called "diaduction." This force, said to be inherent in the Oxydonor, would cause oxygen to be "forced through the system" of the user.

Sanche went farther. He evolved the "Fraternity of Duxanimae" to which purchasers of the Oxydonor could belong after taking a vow, *Votum Fraternitatis Duxanimæ*. The essential features of the vow were the furthering of the sale of Oxydonors and opposing the sale of imitations, for, needless to say, the commercial success attending the sale of Oxydonors brought numerous imitations on the market. Sanche and his imitators reaped a golden harvest until the federal officials intervened, declared the various devices to be frauds and debarred them from the United States mails. In preparing its cases against these frauds the post office officials had the Bureau of Standards apply delicate tests to the Oxydonor. The Bureau reported, in effect, that the Oxydonor was as inert as an empty tomato can with a string tied to it.

As James Graham of Celestial Bed fame easily ranked first among quacks of his generation, so the name of Albert Abrams (1863-1924) leads all the rest in the history of medical charlatanry in the first quarter of the present century. Abrams was American born but obtained his medical diploma from Heidelberg. He practiced reputable medicine for a time in San Francisco and then made a brief excursion into a hybrid and upstage imitation of chiropractic which he called "spondylotherapy." This failing to bring in the shekels, Abrams then turned his unusual talent for quackery to bringing into existence his so-called "Electronic Reactions" soon abbreviated to E. R. A. He devised a number of imposing and technical-appearing pieces of apparatus which, while wholly without mechanical, electrical or therapeutic value, proved of enormous commercial merit—to Abrams! As Mesmer and Perkins brought out their quackeries about the time the public was becoming interested in the simpler phenomena of electricity and magnetism, so Abrams put his magic boxes on the market about the time the radio was coming into general use. His devices had the outward appearance of complicated radio sets.

Abrams claimed that by means of his magic boxes he could determine from a drop of blood or even from the autograph of a patient not only the disease from which the patient was suffering but also his sex, religion and racial descent! Abrams advanced the theory that all disease is a matter of vibrations. His diagnostic machine was supposed to determine the "vibratory rate" of the disease; his treatment machine, called the "Oscilloclast," was said to cure the disease by applying to the patient the same "vibratory rate" as that of the disease diagnosed. This was the old homeopathic doctrine of *Similia similibus curantur*—like cures like!

It is doubtful whether Abrams knew as much about electricity as did Graham of a century earlier. Certainly he knew less about the subject than the average high school student of today. But Abrams had a vocabulary that could be counted on to enhance his reputation for erudition in the minds of those who knew even less than he did. In the medical field there could have been applied to him the gibe that a British statesman of a past generation threw at his adversary: "The gentleman is intoxicated with the exuberance of his own verbosity."

THE "I-ON-A-CO" WHICH THIS WOMAN IS WEARING IS A SO-CALLED MAGNETIC REMEDY.

Among the many pieces of pseudo-electrical hokum brought out by Abrams there were two of outstanding importance: One was for the alleged diagnosis of all diseases, and the other was for the treatment, also alleged, of all such diseases as were diagnosed. His magic boxes were sealed and were never sold, only leased, and the lessees were required to sign a contract not to open the boxes. The scheme seemed fairly foolproof. Victims were first charged roundly for a diagnosis of diseases which they did not have and then were again mulcted for being subjected to the treatment machine, the Oscilloclast, to be cured of a nonexistent condition.

It was a gold mine while it lasted and, in addition to some reputable but undiscriminating physicians, many of the outstanding quacks of the country leased the Abrams devices. Many laymen in whom the will to believe was strongly developed were captivated by the Abrams hokum. Mr. Upton Sinclair, whose quixotic nature has led him to tilt his lance at many an economic and medical windmill and to defend not a few illusions, from fasting as a panacea to "EPIC," was completely sold on the so-called Electronic Reactions of Abrams (E. R. A.). In a letter written to and published in *The Journal* of the American Medical Association, Mr. Sinclair declared that he was quite convinced that Abrams had "discovered the great secret of the diagnosis and cure of all major diseases." Mr. Sinclair further stated in his letter that some of the lessees of the Abrams machines were, as a result, "enjoying incomes of from $1,000 to $2,000 a week"—the argument being, apparently, that anything that could bring in that amount of easy money must be good!

Abrams died in 1924 of what Mr. Sinclair would probably class as a "major disease," leaving an estate estimated at $2,000,000!

About the time that the E. R. A. was fading from the American scene there came out of the West another piece of quackery: the I-on-a-co. This universal cure was brought to ailing humanity by Gaylord Wilshire of California. While Abrams and his numerous imitators exploited the public indirectly through the medium of renegade, thoughtless or venal physicians and osteopaths, Wilshire worked the other side of the street. He went to the public direct, making his contacts in the orthodox quack way, via the advertising pages of supposedly reputable newspapers and magazines.

Wilshire was no stranger in the persuasive power of printer's ink, for previous to his excursion into the domain of quackery he had tilled to his financial advantage the fields of real estate and stock promotion. He spent tens of thousands of dollars on full-page advertisements of the I-on-a-co, and the harvest was a bumper one. The I-on-a-co—which I described in some

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WINGS OVER GUTHRIE (Continued from page 398)

too mild and lacked the facts and conviction of helpful support.

In his office next to his bedroom in the Cherokee Hotel, Boyard brooded over the situation over several lonely bottles. While the criticism hurt because he felt its injustice, it hurt most because of his joy and keen interest in the uses and virtues of anesthesia. He suffered for the unnecessary suffering involved in its unreasoned opposition. But it was only 1895, and this was Oklahoma, where things at large were handled on a rugged, simple plan. And Simpson himself had only ventured such experiment in 1847. It was unfair to expect the esoteric, reserved support that Holmes had given the subject to have yet influenced lay attitudes in these far frontiers. His instruments, his anesthetics were principles—firm convictions he would never relinquish! By his own standards he judged himself a clumsy, bungling butcher with the knife, but the same spirit that impelled him westward also impelled him to continue to strive for those things he saw in such great need. For Boyard had no delusion with respect to himself. Just a poor disciple of Hippocrates, he recognized his limitations of equipment, experience and research. The muscles of his neck tightened at the thought that the use of the poor mercy of chloroform must struggle against ignorance and bigotry, that he and all poor bunglers like him might use this sweet relief for those who would suffer enough even in the highest hands. It was all twaddle—all tommy-rot—but a ruinous tommy-rot in a community so small, so quick in its judgments.

The crowning touch to the doctor's sufferings at the flight of Jimmie Bevee's stork was added by little Jimmie himself. It was entirely an accident. It happened when Jimmie was 3 months old. He was lying on the bed with his 5 year old sister. In her play she inadvertently rolled the baby off the bed, and in falling his head struck the edge of a heavy slop jar.

The news got around that the mayor's baby had been unconscious for over four hours and had gone from one convulsion to another just as a result of a small bump on the head and had been brought back to life only by the heroic administration of mustard plasters by the faithful Sarah Harbinghorst. The news spread rapidly indeed and served somewhat as a final straw in the opinions of those who needed proof that not only the mother but the child as well suffered from such unnatural proceedings as those that attended his birth.

After this incident, Boyard stayed close to his office for several days. Such broken bones and fevers as he must attend were taken care of in sullen silence. That he wasn't himself was seen by even the poorest and least critical of his remaining patients. His real struggle was with himself in his hours of solitude and doubt. He felt it a confession of weakness the day before—that setting of a broken arm—raw. But the other cow hands had gathered too curiously about. So he had let the injured man take it with his teeth set.

In the meantime, Sarah Harbinghorst's naturally brisk spirits quickly gave her the full measure of her triumph in the situation. Not even to herself had she confessed how badly frightened she had been during Mary Bevee's days of fever. But three months was a long time in Oklahoma Territory, and the definite triumph of the mustard plaster offered all the lift she needed. True, Mary Bevee was still not yet herself, but her strength was rapidly returning, and each day found the mother more normal and Jimmie more attractive in spite of his original handicaps.

The beaded buggy whip had for several weeks waved as a plume of victory in Sarah's smart, high-seated, cut-under buggy. When Jimmie's mother had insisted she accept it as a present, the whip had given her a curious and perhaps un-Christian thrill. It was the sign and seal of the entire event, so to speak, and the whip socket of Sarah's bright rig was its logical resting place.

For octogenarians will recall that back in those days—at least in the West—one's social position was indexed by one's diamonds and horses and rigs. Sarah's diamonds were brilliant and plentiful; her rig was smart and red wheeled, and the 4 year old bay that she drove required all the spirit and brilliance that her naturally good horsemanship provided.

There were so many things besides one's own horse that needed watching that many a social leader paid with her courage for the privilege of handling a piece of horse flesh that became her position—not so much because bystanders were critical of small details of position but because they were critical of the details of horse flesh. And what with lumber scattered about the streets at every turn, hammers and saws going, galloping horsemen unexpectedly running out from behind buildings, or an occasional volley from an innocent celebrant's pistol ripping the air, the good horse that became a really good position wasn't exactly the thing for a child's errands.

With the thawing of the winter's snows and the coming of the first clear days of spring, Sarah's lively bay was among the first to lift his spirited feet from the clinging suction that each step made in the sticky red clay of Guthrie's streets. Erect in her sealskin, with the beaded whip smartly crossed over the reins, Sarah made a surprisingly handsome figure in spite of the mud and the ruts that constantly threatened the progress of her cart.

It was a picture that Dr. Boyard knew by heart. For several trips up and down Main Street were as regular a part of the Western woman's afternoon driving ritual as tea is in an English manor. And just like other men, Dr. Boyard from the vantage point of his Main Street window was given to watching the daily parade. Every time he saw Sarah he resented the angle at which she carried the beaded whip. It was no less a red flag because he knew how little use it really served in handling the handsome young bay.

On this particular afternoon, it must be confessed the day had been hanging heavy on the doctor, and too frequent touching of the bottle had dulled his spirits more than had the first sleepy warmth of spring. When Sarah Harbinghorst passed down the street it seemed to him she sniffed disdainfully toward his window, and the beaded whip looked so needlessly colorful and bright that its presence was more of a direct insult than ever. But she passed on as usual, the bay's feet flinging the sticky clay at each step, and the wheels of the rig splashing mud and water from the puddles in the street.

For several minutes the doctor stared fixedly into the street where the rig had passed, almost completely oblivious to some distant shouting that yet reached him faintly, seeing, without comprehending, the several men across the way who turned as a group and ran down the wooden sidewalk. Nor did he attend the cowboy who jumped quickly in the saddle, wheeled his horse and galloped away in the mud. Folks were always rushing around. Cowboys were always starting off in unexpected directions at a gallop when they were in town with money to spend.

But another sound brought Dr. Boyard quickly out of his daydream. There were heavy running steps on the stairway to his office and a voice calling ahead for him.

Boyard had already put his coat on and had added a clean lance

and probe to the instruments already in his bag, when the messenger breathlessly opened his door without knocking. It was one of Jim Bagley's clerks from the furniture store that also happened to be Guthrie's undertaking establishment.

"Quick, Doc—" the fellow panted. "Hurry up—it's Sarah Harbinghorst. They brought her in our place. The bay shied at something and started backing up on her and when she cut him with the whip he lunged out, and the buggy upset in a mud hole. Jim said tell you she was breathin' okay, but her right arm was plumb broke, and she was out of her head. He said tell you he thought there was bone sticking through."

Dr. Boyard steadied the fellow a moment, both to give him a chance to catch his breath and to make sure he understood.

"You run back just as fast as you came, Sam," he said, "and tell Jim to start a kettle of water boiling for me. Be sure now. I'll be right after you."

His own mind was absorbed in a rapid inventory. "Hmm—splints! Bandages! Stitches!" Boyard gathered his things quickly and automatically. He was sober now. With everything needed in his bag, he poured a drink to steady himself for the fast two-block walk down the muddy plank sidewalk. "Hmm—Sarah Harbinghorst! Conscious probably now! Splinters of bone through the flesh!"

He paused on his way to the door. The sudden twinkle in his eyes would have been humorous if it had shown less of forgiveness and sympathy.

From a shelf over his desk he reached down a can of chloroform. Carefully on a sleeve he wiped the dust away, placed an extra package of cotton under his arm, and then with the little black bag went swiftly down the steep, rickety stairway.

He arrived at Bagley's Furniture Store with his pulse quickened both by the fast walk and by the sharp alertness he felt at each emergency he faced. It was the matter of a moment to push his way through the crowd gathered at the rear of the store by the doorway to the undertaker's room.

Sarah Harbinghorst was stretched out on the mortuary table. Tears of shock and pain had already streaked the mud on her face. Despite the red clay with which the sealskin coat was so liberally covered, the deeper red on her right hand and on the table and floor verified Jim's report that the fractured bone had pierced through the flesh.

With a word of apology, Dr. Boyard closed the door of the room in the faces of the curious.

"You and your boy stay here, Jim. Son, you put these in that kettle of boiling water I told you to get ready." He quickly removed the instruments he wanted and arranged his bandages and splints as conveniently as he could. Then he removed his coat, rolled up his sleeves and washed his hands in a basin of water poured from the simmering kettle.

With his hands dry, he turned to his patient and walked quietly over to the table beside her.

Her face white with pain, Sarah wept with shame and humiliation.

"There, now, Sarah Harbinghorst," Boyard's voice sounded full and gentle in the room, "you jest take it easy-like, and we'll have you feeling better in no time at all."

"You, Jim, dip a clean towel in some of that water, and let's clear some of this mud away."

With the improvised washcloth, Boyard gently removed the splashes of red clay from Sarah's face, wiping her temples quietly a moment.

"John is away with the delegation at Washington, ain't he?" he asked.

Sarah nodded an affirmative, and her tears streamed afresh.

Boyard was almost plaintive when he next spoke to her. "I have to have your help, then, Sarah, 'cause I know if John was here he'd approve. You see I'm going to have to cut that sleeve away from your hurt arm here, and then I'm going to have to hurt you some more—right bad, I'm afraid, jest for a little bit—and it's going to help me a heap more 'n you if you let me give you jest a little whift of chloroform. I know John would approve it if he was here, but I won't do it 'less you say I can."

As she looked up into the intently eager face bending over her, Sarah realized, as many do for the first time in a similar period of ordeal, the significance of all that the old doctor stood for—or tried to stand for.

Boyard's heart leaped happily at the tears of surrender and consent that denied the negative shaking of her head.

With the clerk awkwardly standing by with the water and a clean towel and with Jim Bagley holding the patient's shoulders steady and adding fresh chloroform to the cotton across Sarah's face at his direction, Boyard cut the jacket away, cleansed the torn flesh of the forearm, cursed the blindness of man as his fingers alertly but firmly answered for him the questions that are only partly clear to an x-ray and thus rejoined the broken bone, carefully removing splinters from the flesh. He closed the ruptured artery, reunited the flesh, placed his splints with a few firm wrappings and signaled Bagley to remove the improvised mask from his patient's face. Moving with incredible speed, he prepared a hypodermic. Waiting quietly as he watched his patient's pulse, he gave her the injection just before she regained consciousness.

And so Sarah Harbinghorst came back to the world dizzily, a cold towel bringing sweet freshness to her face, and Boyard beside her.

Boyard was happy. He was proud of the speed with which he had worked; satisfied with each move. It was just a matter of killing time for relaxation to finish up the job of bandaging his splints and preparing a shoulder sling.

With his work finally done, Boyard straightened up to relax on his own account. The cotton of the extemporized mask on the floor caught his eye and a momentary expression of confused bewilderment swept across his face as he realized for the first time that the room was heavy with chloroform and a crowd of the curious was still waiting outside.

Glancing around the room, he saw the bottle of embalming fluid on the shelf by the table, and again his eyes twinkled.

"You, Sam," he addressed the pale and somewhat nauseated clerk, "hand me that bottle."

With the large bottle in his hands, he paused a moment and eyed the youngster sternly. "Young man, I know Jim and can depend on him. What goes on between a doctor and his patient must never go no further. There's been too much talk in this town already, and there ain't going to be none come out of here."

Removing the cork from the bottle, Boyard sniffed the unsavory contents with evident satisfaction and proceeded deliberately to spill the contents freely around the floor.

He saw the look of quick understanding in Jim Bagley's face.

"You explain to him after I've gone, Jim," he added dryly to the undertaker. Then he handed the bottle back to the young man and with equal deliberateness slapped it out of his hands, crashing down to the floor.

Then with one quick warning caution for silence, he threw open the door before the crowd outside.

"One side, please, folks—one side. Everything's jest gone fine. We're all through. Jim's young man here jest knocked this bottle of embalming fluid off a shelf. Smells terrible, but no harm in it. Couple of you men help Jim and me lift this table right out here in the hall where Sarah can get some fresh air, and the rest of you folks please step back jest a little."

With Sarah comfortably moved to a less pungent atmosphere and in the sympathetic care of Margaret Coulter and Helen Bradley, who

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BAD HABITS in GOOD CHILDREN (Continued from page 444)

school girl who pauses every time that she comes to the word "hospital." After considerable agitation she finally calls it "hostipal." Her father, an administrator in one of the largest institutions in this country, is just beginning to realize that the joke has been carried a little too long. Recently a 7 year old boy told me that his brother was in the "bastem" workshop. His father, a professional man who should know better, remarked, "It's great to hear kids talk. They are so entertaining." The little fellow looked crestfallen. It was evident that he resented being taken for a clown. It was not his fault that the whole family accepted "bastem" for basement.

Every normal child is born with a capacity for proper speech. Careful evaluation of the learning processes, especially with the thought constantly in mind that the child learns by imitation, will prevent silent suffering of many thousands of children. Like all bad habits, defective speech has a beginning although the exact time at which a habit becomes bad is not determinable because of the insidious nature of its development. This is true of all biologic phenomena.

A baby begins to walk at a certain age, let us say 1 year. The first steps are hesitant and wabbly. As the months progress the steps become steadier, the child feels confident in his efforts, the novelty wears off, the family excitement subsides and the child's walking is taken for granted. No one has taught him to walk, but every one was eager to lead him, direct him and encourage him. Should something interfere with his normal gait, information is usually solicited and advice received on the anomaly in the attempt to prevent or to correct existing deformity.

Let us follow this child in his speaking adventures. He was born with the structural and functional ability to talk. The fact is, he commenced to talk much earlier than walk, but his language was understood only by psychologists. Now that he is old enough to talk, it is only fair that he adopt the language of the house. For twelve months or thereabouts, his mother and whoever else was in charge of supplying his needs would approach the crib with an object in one hand, smile at him and ask laconically, "Water?" During this long period it is only natural that he learned unconsciously to associate water with his feeling of thirst. He ultimately ventures in a respectable way to imitate the word to the best of his ability. But his vocal apparatus is not yet ripe for perfect imitation. Like the little legs in his early attempt at walking, it wabbles. He hears himself say "wa-wa" and sees delight and approbation on the face of every one around him. His mother repeats "wa-wa," and the infantile sound remains a part of his vocabulary until he himself becomes ashamed of it. If he is unfortunate enough to develop into a "mama's boy" he will carry this and many similar verbal monstrosities to kindergarten with him.

Only the other day an otherwise intelligent mother brought a 5 year old girl to a physician's office for preschool examination. When the child expressed an unwillingness to be examined, her mother promised her some "tandy" as a reward. In answer to the doctor's horrified "What!" the good woman explained that the little girl was unable to pronounce the "k" sound and that she thought it best to wait until the child goes to school where the defect would be corrected. Afterward she admitted that both her husband and she rather enjoyed talking to the girl in baby fashion. "She is the only child we'll ever have, and we hate to see her grow up."

In contrast there is Helen King, who is 4 years old and whose mother is an educational enthusiast. The child has a normal physical and mental makeup. Under constant training "since she was able to 'say da-da," the little girl has acquired an unusually large vocabulary and does justice to the first reader. But try as one may, Helen simply refuses to abide by grammatical etiquette. According to Mrs. King, the girl can learn almost anything except grammar. The problem that is now developing is that Helen is fast becoming hesitant of speech. She stops in the middle of a sentence. The explanation is simple. I have seen the child numerous times and have had occasion to notice the repeated nagging: "How do you say it?" and "What did I tell you about the past tense?" Fortunately Mrs. King has lately agreed to abandon the forcing process, and by all rules of psychology, Helen may be expected to escape the stuttering career for which she was headed. Parenthetically, the little lady is adept not only in quoting words from the reader but from her father's unholy repertoire as well. On one occasion when Mr. King was given warning of his daughter's tendencies he remarked nonchalantly: "Realism, my dear; she may as well learn to appreciate it early. You enjoy Lawrence and Cabell; why get excited over it in your own husband and your own daughter?"

At the present time I know of a 6 year old Jewish girl who, in

(Continued on page 472)

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"THAT NEW MAN WON'T LAST"

THE HANDICAPPED CHILD

(Continued from page 428)

many individuals. These men and women realized that if crippled children are to have a chance, the whole community must accept its responsibility and pitch in to help. The girls, most of them victims of infantile paralysis, all show marked gains, both physically and mentally, from their Scouting experiences. All have attained some proficiency in swimming, have passed the Second Class Girl Scout tests, and some have even "graduated" into regular troops near their homes. In addition to the splendid gains through the year, the improvement at camp the first year was so great that the physician in charge of the children asked to have the troop give three demonstrations before a meeting of the state medical association in October of that year. If Girl Scouting for the physically handicapped did no more than act as a medium for bringing about such fruitful cooperation and understanding between experts and laymen, it would be worth while!

Counselors at all camps for the physically handicapped were careful to see that no girl attempted what was beyond her strength, but they were also delighted to see what these handicapped children accomplished. One girl, severely spastic, made not one but two of the intricate leather belts she had admired on her comrades. A blind girl who with a seeing buddy last summer attended Camp Andree, the national Girl Scout camp near New York City, could hardly be singled out of a laughing group by one who did not know her. The advisor for the Girl Scouts' national arts and crafts program talked with her and afterward declared, "Never again do I want to list crafts for handicapped children. As with other children, I like to put before them all the interesting things that can be done and give them the opportunity of choice. They will go much farther than we can anticipate."

In Kentucky the Girl Scout troop at the School for the Blind at Louisville makes its own uniforms, goes on hikes and on week-end camps just like other Girl Scouts. It is one of several troops in residential schools for the blind which carry on such activities. They study nature on the campus of their school, learning the location of trees and recognizing their species by the varying patterns of their bark, the shape of their leaves or even the rustle of the leaves in the wind, for the blind girls say that they can quickly tell the difference between the sound of the wind in the magnolia's stiff leaves and the whispering of a willow.

The Girl Scouts are beginning to experiment with camping for children with heart disease. At a Maine camp last summer four girls with heart disabilities camped under the supervision of their leader, a graduate nurse. Almost all showed marked gains, and the child whose heart condition was worst of all was so improved that she was able to go back to school with an enthusiastic report from her doctor. She gained 26 pounds during the summer, and although she could not, at first, take part in any active camp work she finally enjoyed the full program except swimming and the longer hikes.

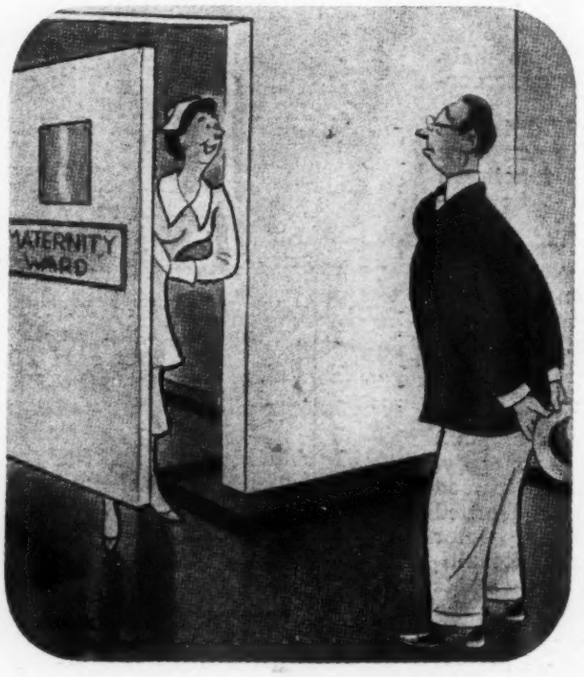
Instances of helpful work among handicapped children continue to pile up, but the Girl Scouts are not so much interested in past performance as in developing a richer and more flexible program to meet the needs of these children and to help them live active normal lives. To this end they have adopted four guiding principles:

1. The enlistment of able, understanding leadership.
2. Cooperation with authorities on the care and education of the physically handicapped in the wise development of the Girl Scout program and leadership.
3. Widening acquaintance with, and use of, the achievements and the problems of present physically handicapped troops.
4. Provision of such necessary special tools as braille and large type editions of the Girl Scout Handbook, Kathryn Maxfield's "Girl Scouting for Blind Girls" and Mrs. Winifred Hathaway's "Girl Scouting for the Partially Seeing."

These principles are emphasized constantly in all reports, correspondence and conferences.

The organization believes that the barest beginning has been made in helping these girls to feel themselves part of useful society and in inculcating in laymen an understanding of and cooperation with professional standards. A letter from a leader who had watched a crippled child amaze her parents and physician by her newly won ability to walk continued, "She is making almost a superhuman effort, and Scouting gave her the will to try."

Girl Scouting offers every girl a chance to exercise this "will to try," to do her best in the fields that interest her most. The Girl Scouts are working now with interested men and women to bring this chance to more and more children who were once considered "handicapped." The work has profited by the suggestions and experience of physicians and other authorities throughout the country, and in its development it will continue to do so, but there remains a wide field in which the community will want to cooperate. As one physician has so well stated, "The possibilities are limitless, the privilege is enormous."



"THREE GUESSES, MR. LENOX!"

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FOR A CHILD'S SAKE (Continued from page 405)

daily treatments in the water, with other prescribed treatments, make it possible for many to regain the use of their limbs not only under the water but outside the pool as well.

My attention was suddenly drawn to a small smiling chap on a perambulator who had been wheeled up by an attendant. A gay blanket was thrown over him. First the attendant wheeled the perambulator into two tracks laid on the floor beside the pool. My heart jumped suddenly into my throat. All at once, without warning, this youngster with the litter beneath him was lifted by some sort of machinery into the air and suspended for a few seconds over the water; then very gently it lowered and laid him easily and softly into the water's caressing arms.

Mrs. Cushman, observing my concern, said, "Don't be frightened; he's perfectly safe."

This hydraulic lift, which is of a type entirely different from any other lift in the world, is also used in connection with the two other pools in the building. In hydrotherapy, one of the main problems has always been to transfer patients with a minimum of handling from their beds to the pool. Usually in other institutions the trolley and gurney system or the overhead sling with improved boatswain's chair is used; but this lift, which was designed and built especially for Denver Children's Hospital, raises and lowers a cradle consisting of two arms that are spread to support a litter with a child. Each perambulator that carries a child to the pool has a rubber mattress and wooden slat litter that is detachable. This lift is so controlled mechanically that an attendant can be close to the child during the entire time she is operating the lift. "The children feel more secure when a nurse is close at hand," Mrs. Cushman informed me.

My glance strayed to the happy little boy who had just been placed in the water by the lift. In September 1933, he had been stricken with infantile paralysis and while enroute from his home in Casper, Wyo., to the Denver Children's Hospital had been kept alive by artificial respiration. For hours he had lain at death's door. How long would he live? For fifty-four hours, doctors had to keep him breathing; then luckily he began to breathe alone. From that time until the present he had been in the hospital intermittently for many months at a time, always cheerful and determined to get well. Today he is so much improved that the doctors hope he will regain about 80 per cent of the normal functioning of his legs and arms. This was another crowning triumph for the healing powers of this pool. Mrs. Cushman's eyes rested on the youngster, who was now talking excitedly to his nurse about something, and she turned and said to me, "To look at that boy today you'd never know what a really sick child he's been." I readily agreed with her.

The floor is covered by a gray, corrugated, nonslip tile, the same kind that covers the steps and sides of the pool. I noticed how well it blended into the color scheme of this attractive room, as we made our way to the special outside stairway leading to the enclosed glass gallery that overlooks the pool on one side.

"How quiet it is here," I remarked. "I can hardly hear anything."

"That's because the ceilings and walls are made of cork," Mrs. Cushman said. "The cork absorbs the sound, and it also absorbs the excess moisture." Before we left the room, she showed me the dressing rooms, the showers, blanket warmers and a closet holding the apparatus of the pool room. The adjoining closets of the other two pools have similar equipment.

Relaxing for a few minutes in comfortable chairs on the overhead balcony, where doctors, parents and friends may see patients taking their treatments without disturbing them, we watched through glass windows the happy youngsters below, splashing away in the water with apparent delight, building straight, strong little bodies in a bright, cheerful world that belonged to them alone.

The smaller spastic pool, the hot water pool, which we visited next, is maintained at a temperature of 102 F. and is used for more rigid cases requiring drastic treatment. I instantly singled out one tot who was at the moment struggling up and down between horizontal bars, learning to walk. An exciting adventure it was for her, for just a few weeks ago she had been unable to move. Next to her was a youngster resting in the efficient arms of her nurse and watching her thin little legs being lifted, then bent, then turned from one side to another by the nurse's skilfully gentle hands. The child's face beamed like a newly lighted candle as she caught sight of Mrs. Cushman, who is loved dearly by all these youngsters.

Equally as beautiful as the first two was the third or chemical pool room, where the water is a strong saline solution used for special infections such as arthritis, bone tuberculosis and osteomyelitis.

"That little boy over there is a good example of what this pool's treatments do for arthritis," Mrs. Cushman said, nodding in the direction of a freckle-faced little chap at the far end of the pool, who from all appearances was having such a grand time that he had forgotten that pain existed. "When he entered the hospital a few months ago, he was suffering intensely from arthritis. Now look at him." Truly, I thought, if the water in this pool could change a child who had been twisted and tortured with swollen little arms and legs into a laughing, normal-appearing youngster, free from pain, then who can question that these pool treatments are one of the greatest achievements of science?

I was told about many other cases of lamed and misshapen little children who had been helped greatly in this pool. There was that one small girl of 11 who had encephalitis, which caused her to walk on the tips of her toes. Having to walk in this unnatural way had made her miserable and unhappy. By taking treatments in this hot pool she gradually learned to relax her muscles until in a few months she was able to walk as well as any other normal child. Most certainly these pools are unbelievable healers.

In the physical therapy department, infra-red and ultraviolet ray treatments are given. In this room there are also the leg and arm baths. Here a crippled arm or leg is placed in a tub of swirling water which is kept in constant motion by machinery. Doctors have found this treatment extremely beneficial to the crippled limbs.

Each nurse cares for her own small patient, each pair being separated from the others by a partition. What really fascinated me most, however, was a series of colored lines on the floor leading from the middle of the room to a mirror at one end of it. Each of these lines was of a different color. A bobbed-haired child, supported securely by the arms of her nurse, was slowly walking along one of these colored lines as she watched her own reflection march toward her in the mirror. The nurse attending the child motioned toward the glass as she spoke to her small charge. "Look in the mirror—see! Don't you think you're walking better today?" Smiling, the child nodded as she spoke, "Oh, yes, I think I am." The rewards of perse-

verance in such cases as these are certainly worth while.

In the cheerful, large room where patients who are not regularly hospitalized are received, I watched a tall boy skilfully move across the room on crutches. Several years ago he had fallen out of a window and had broken his back, causing paralysis of both his legs. His frantic parents had brought him to Denver Children's Hospital. For three years he had lain on a frame in the hospital, but finally he improved enough so that with long braces to support his legs he could be given treatment in the large pool. Still later, as he grew stronger, a jacket and braces were built for him, and then gradually he learned to use crutches outside the water. Now he is so far recovered that he visits the hospital only for occasional treatments.

Adjoining each floor, adjacent to the wards, are large open sundecks where the children absorb the sunshine. Around me on that first sundeck were dozens of children, some tucked comfortably into soft padded wheelchairs, others lying on their own little beds, for the wards have been so designed that the beds can be moved with ease right out on the sundecks. Thus, many little patients who might not otherwise get the benefit of the sun are able to bask in its rays. How private it was out here, with the tall, sheltered walls and their pretty paneled windows overlooking the streets below.

On a wheel chair near me was a little girl, her eyes vying in color with the blue sky overhead. "That case," said Mrs. Cushman, stepping back out of hearing distance, "was tragic. The child was injured at birth and wasn't able to sit, stand or talk when she entered the hospital. She was just 7 then. The doctors considered hers a hopeless case, but of course we gave her the best of care, including the pool treatments. In just one week she could stand erect in the pool—even walk a little and say 'yes' and 'no.' Now she is well on the way to walking and talking like any normal child."

The ward rooms, which are located on the first, third and fourth floors, are all restful and charming. Each child is cozy in his own little bed. There are ninety-six beds in all these rooms, each one equipped with a movable table attachment for holding toys or books. A youngster with a freckled face, the tip of his tongue tightly pressed between his lips, was reading what must have been a thrilling story. A little girl next door laid her crayons aside from the book she was coloring to grin a half-toothless smile at us as we passed.

"Why are there two lights to every bed?" I asked the nurse who was standing near. She explained that one light on each is controlled by the nurse in charge, and when she turns the switch at the entrance the light is thrown toward the ceiling. The other light is a reading light and can be turned on by the child. At night the path of the nurse as she visits the children's beds in turn to see that they are all right is illuminated by still other lights. Also each small bed has a nurse's call bell and a radio outlet. I paused to take a deep breath—the air smelled so clean and fresh. And no wonder, since these rooms are air conditioned. The private rooms have the same conveniences that the ward rooms have.

On one of the beds a small newspaper caught my attention, and I picked it up. To my surprise I saw that it was a hospital newspaper. "The history of this paper is really interesting," said one of the nurses standing near me. "It was started in 1934 by Jack Bartram, a 15 year old boy who was then a patient here. He received a typewriter for Christmas, and he and five other children got their heads together and decided to edit a paper. From then on this paper, *The Solarium Squawk*, has existed. All its contents are written by the children. The ones using wheel chairs and crutches go around to the children's rooms gathering news. At first, Jack typewrote all the copies, but now the hospital has the copy mimeographed. All the doctors, nurses and friends of the children cooperate by bringing them news of the outside world which is written up by some of the children so that it will interest the rest of the youngsters. Having 135 copies circulated weekly is certainly proof of its popularity. It has subscribers in Connecticut, New Jersey, New York, Indiana, Wyoming, Nebraska, Kansas and Colorado."

Next we visited the large auditorium, which is decorated in peach and blue and which contains all the latest equipment for motion picture shows so that tiny patients can witness the plays right from their own little beds. Just think of having so much fun and being so comfortable! Adjoining this room is the schoolroom with a well equipped library constructed for both beauty and utility. It contains comfortable chairs and desks with movable bookshelves that can be transferred to the side of any child who happens to be in a wheel chair, so that he may make his selections without difficulty. What wonderful work is being accomplished here! Children's minds as well as their bodies are being built for the years ahead.

The teacher told me that first each child is analyzed to discover what he is best fitted for; then with constant, intelligent cooperation between the doctors and teachers, things begin to happen to these youngsters' minds. With each round of the clock, intelligent training is given them—something for which they will be thankful as long as they live. The welfare of each child as an individual is always foremost in the teachers' minds. One little chap about 9 years old laid aside his book and very seriously watched us. The teacher had just told me he would soon be able to leave the hospital after undergoing more than fifteen operations during the past two years. "Will you be glad to be in a grade school soon with lots of little boys and girls your own age?" I asked him. "I like it here," he replied, looking toward his teacher. Then, beaming, he added, "And they say I can stay the rest of the term since school's almost out anyway." Certainly I didn't blame him for feeling the way he did.

My visit at an end, I stood on the steps and looked back in admiration. During the past year, 3,681 children had been treated here, not counting the 5,826 treatments given in the hydrotherapy unit; and no child had been turned away because of inability to pay for treatment. With a prayer in my heart, I slowly lifted my eyes and rested them on the beautiful words engraved above the outside door: "For a Child's Sake."

May 12 (Florence Nightingale's Birthday) Is National Hospital Day

"The modern hospital, the workshop of the modern doctor" will be discussed in a broadcast, May 11, by the American Medical Association and the National Broadcasting Company, in which will be described its contrast with hospitals of the past, its significance for the present and its possibilities for the future. *(See page 452).*

Gosh-all-fish-hooks!

What terrific bodily energy these youngsters burn up every day!

Fun outdoors demands food energy in surprising amounts. Children every day burn up more in proportion to weight than grown-ups do. At breakfast particularly they must "refuel." That's when the food energy supply is usually at a low point, with hours of intense action just ahead. Serve your youngster delicious Cream of Wheat. It gives two-fisted food energy in real man's-size portions . . . and gives it fast!

Good eatin' for 43 years! That's the record of Cream of Wheat. 3½ million bowls of it are enjoyed daily. It is digested with supreme ease. Digestion starts almost instantly! Your doctor will undoubtedly tell you more about its plentiful food energy . . . its muscle-building protein . . . and what a factor it can be in encouraging steady weight gains.

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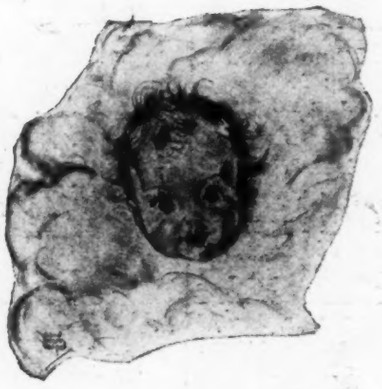

To

PROSPECTIVE FATHERS

THOUSANDS and thousands of American mothers are going safely through childbirth each year. One reason is because more prospective fathers have learned how to anticipate and provide needed care and attention which some expectant mothers hesitate to request.

Just as soon as his wife believes she is going to have a baby, the modern husband should get in touch with a competent doctor who can give her first-class care. Then he accompanies his wife on her first visit to the doctor's office, giving her added confidence, answering many of the doctor's questions and receiving the medical information every prospective father should possess.

The more enlightened modern husbands become, the more they want to share the problems of their wives. Realizing the value of peace and serenity, they do all within their power to maintain a happy and unworried home atmosphere.

If your wife expects a baby, be a modern husband. Remember that scientific maternity care, *from the very beginning*, is vitally important both to her and to your unborn child. Have her consult a qualified doctor at once and at regular intervals until after your baby is born.

Doctors and nurses can do a great deal to keep expectant mothers well and comfortable. They can help to give unborn babies healthier and stronger bodies and to make their arrival easier and safer.

A postcard will bring you a free copy of the Metropolitan booklet "Information for Expectant Mothers" which contains much additional information for both parents-to-be. Address Booklet Department 538-Z.

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PARASITE TRICKS

(Continued from page 448)

time, they pupate, or become latent, almost at once. They remain in the latent stage for some days and then emerge full grown flies. When they bite certain animals which have the trypanosomes in their blood but which seem not to cause them any harm (reservoir animals), they take in the parasites with the blood. Before these parasites can affect the human being they must develop in the fly for about ten days. Then the fly, which is a persistent biter, attacks the human being, and the parasites are introduced into the human blood stream. In due time, sickness follows. This sickness takes the form of a lethargy; the patient becomes indifferent to everything and wishes to sleep most of the time. Many times he is regarded as lazy. This lethargy gradually increases and is fatal in a large percentage of cases. If the patients were to get the proper care, doubtless many more of them would recover. But most of the cases have occurred in native villages, where sanitation is primitive, and the number attacked in any given locality is often large; usually there are not enough well ones left to look after the sick, and they waste away from lack of nourishment and die. If given food they will usually eat and remain in fair condition for a long time. A fair percentage will recover.

So serious was the condition in Africa that the governments interested took measures to control the disease. Areas were cleared of timber and brush where natives went to the river for water. Clearings of considerable distance were made around the villages. Sometimes it was necessary to abandon whole areas and move the inhabitants to better localities, where fly protection could be more effective. Many flies were trapped by natives who walked through the shady haunts well clothed but with sticky material covering the legs. The flies would alight and attempt to bite but were stuck fast. These and other measures have been partially effective.

Treatment of late years seems to have been successful in a number of cases, but the disease is still a serious menace in many parts of Africa and has been found in other localities occasionally, indicating the possibility of a much wider spread if the fly that transmits it happens to find a favorable environment somewhere else. So far the glossina flies seem to be the only carriers, but there are suspicions that other insects may also be involved, though this fly is undoubt-

edly the principal agent in its distribution.

Whether the much more rapid travel by air will add another problem to the already numerous ones we now face remains to be seen.

In the transmission of blood worms we see how other parasite tricks are played on us and why we must know something about the ways of these parasites if we are to be able to combat them successfully.

[NOTE.—In the June issue, Dr. Skinner will discuss mosquitoes as carriers of disease.]

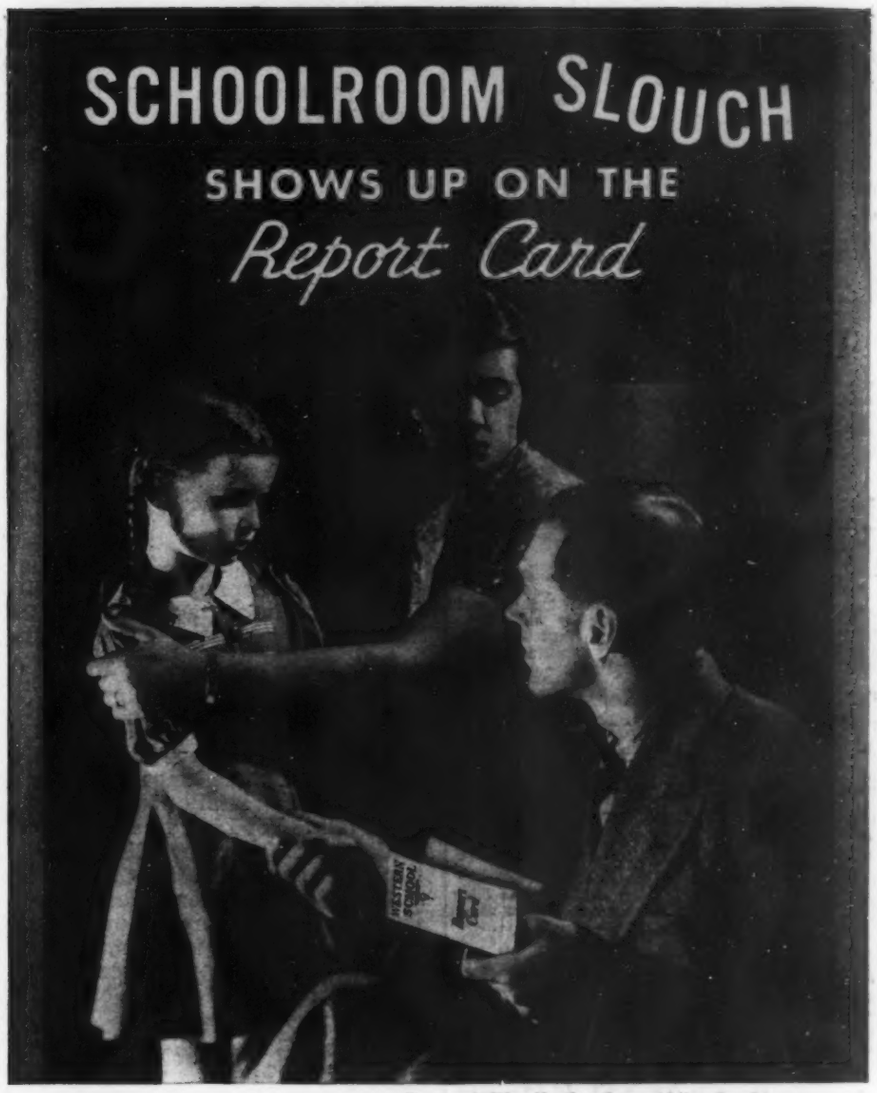
PHYSICIANS SIX THOUSAND MILES APART CONFER ON HEART DISEASE

Speaking from London, England, Atlantic City, N. J., and San Francisco, three physicians 6,000 miles apart will confer via the radio on the subject of rheumatic heart disease, the deadliest and most crippling affliction of children of school age. This conference in observance of Child Health Day will be the first international broadcast on any health problem. It will be distributed to America's homes by the Red network of the National Broadcasting Company on the evening of May 2 at 7:30 p. m. eastern daylight saving time.

Lord Thomas Jeeves Horder, physician-in-ordinary to the king of England, will open the conference speaking from London. Dr. Homer F. Swift of the Rockefeller Institute, New York City, and Dr. T. Duckett Jones of the House of the Good Samaritan, Boston, will then speak from Atlantic City. Dr. William J. Kerr, president of the American Heart Association, will take up the discussion from San Francisco.

This broadcast is designed to acquaint parents and teachers, as well as physicians, with the challenge of rheumatic heart disease, which is the more dangerous because of lack of knowledge of its nature and the difficulty in recognizing its early symptoms. It is now recognized as the deadliest and most crippling affliction of children of school age.

Lord Horder's aerial report will dwell on public health aspects of the disease, particularly in England. From San Francisco, Dr. Kerr will tell of the work of the American Heart Association in this field. Dr. Swift in Atlantic City will describe the medical investigations being carried on to isolate the causes of the disease. Dr. Jones will follow with a discussion of the treatment of children with crippled hearts, emphasizing the need for long continued sanatorial care.



HEALTH as well as school work may suffer when the school desk and seat are uncomfortable.

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BAD HABITS IN GOOD CHILDREN

(Continued from page 465)

addition to English, speaks Yiddish, Russian and French. The remarkable part about it is that she can carry on a conversation in any one of these languages with fluency and ease. I have known the child since she was only a few days old. Her mother, a highly intelligent woman, was born in France. She came to America at the age of 20 years. She speaks English with the usual French accent but enunciates well. Her father graduated from a well known Russian university and arrived here at the age of 30. The dominant language at home is French, although the father and grandmother usually converse in Yiddish or Russian. During the early years of depression the grandmother cared for the child while the mother was away tutoring in French. The parents assure me, and I have no doubt of their veracity, that never has there been a conscious effort on their part to give the child systematic instruction in any of these languages. The girl learned simply by hearing others talk. Yet I have never heard a child speak more beautifully and enunciate more clearly. By contrast I am always reminded of the large number of people, young and old, to whom speaking constitutes an effort and whose voices rasp unmercifully on the ears of their listeners.

[NOTE.—In the June issue, Dr. Jahr will discuss stuttering.]

Since ideas are the seeds which produce habits, and habits the seeds from which character springs, parents will want to know more about the care and nurture of these tender plants. To that end, the American Medical Association and the National Broadcasting Company have arranged a broadcast on "Runabouts, 1938 Model," to be given May 18. For further information concerning this broadcast and concerning the problems and possibilities of pugnacious Peter, tearful Tommy and shy Sue, see page 456.

BETTER PARENTHOOD WEEK

Better Parenthood Week is being inaugurated during the first week of May this year to link Child Health Day, May 1, and Mothers' Day, May 8. An intensive drive will be made to impress parents forcibly with their duties to their children at home, in school and in all other departments of their lives.

—AND PLENTY OF VEGETABLES

(Continued from page 432)

it's too bad. Grandma would have wondered what the world was coming to! Parsnips can be scrubbed and boiled with their skins on until just tender, like potatoes, then peeled. After that—

Sautéed Parsnips

Cut cold, boiled young parsnips into thin slices lengthwise. Sautée in butter until delicately browned. Sprinkle with salt and pepper.

Turnips are first cousins to parsnips, and, like cabbage, if treated right they will reciprocate. Again it is a question of cooking only until tender. It is overcooking that has given them their bad name. Wash, pare, dice and cook until just tender in boiling, salted water in an uncovered kettle. Butter and serve.

Things have come to a pretty pass when onions are cooked only at Thanksgiving nowadays. They deserve better than that, as stuffed onions demonstrate.

Stuffed Onions

(Recipe serves 6)

6 large onions
Sausage meat

Peel the onions. Steam or parboil for 30 minutes or until tender in boiling, salted water. Turn upside down to cool. Remove part of the inside centers. Stuff with seasoned sausage meat. Place in a baking dish with a small amount of water. Sprinkle with buttered crumbs. Cover, and bake in a moderate oven (350 F.) until soft, removing cover last 10 minutes.

Onions gone very "highbrow" are French fried onions. For a garnish around a roast or chops there is nothing that looks or tastes better. They are a fine contrast in flavor and shape.

French Fried Onions

Peel Spanish onions. Cut in ¼ inch slices, and separate into rings. Dip in milk. Drain, and dip in flour. Fry in deep fat (370 F.). Drain on brown paper, and sprinkle with salt.

A good many of us had reached a good, ripe age before so much as hearing about broccoli, artichokes and Brussels sprouts but, once hearing, have made up for lost time.

The trick in broccoli is in selecting it, then cooking only until tender. The best broccoli has dark green, tightly closed buds. One pound will serve three or four persons. Wash the broccoli well, and let stand for a while in cold, salted water. Cook it uncovered in a small amount of boiling, salted

water and serve with melted butter or Hollandaise sauce.

Brussels sprouts should be washed well and the outer leaves removed. After boiling until tender, about 15 minutes, they may be served plain buttered or with grated cheese or cheese sauce. Because many of us feel that Brussels sprouts do not take well to a cream sauce, if we need a moist food in a meal the following method is very good:

Brussels Sprouts with Savory Sauce

(Recipe serves 4 to 6)

1 quart cooked Brussels sprouts
1 onion finely chopped
2 tablespoonfuls butter
1 tablespoonful flour
¾ cupful of liquid in which sprouts were cooked, or meat stock
Salt and pepper

Make a sauce of the butter, flour and stock. Add onion. Pour over cooked Brussels sprouts, and heat through. Season and serve.

Every now and again a big fresh vegetable salad will please the family and satisfy the vegetable requirements at the same time. Like hash, materials for such a salad probably just accumulate. But Antoine of the Ritz-Plaza couldn't turn out anything any better or with more appetite appeal. It isn't necessary to have all the ingredients named in the tossed green salad, for other vegetables may be substituted—if they are all fresh, crisp and cold. Watercress, with its mild horseradish flavor and waxy green leaves, however, and endive, with its pale curly beauty and slightly bitter flavor, are two greens that do much for both the flavor and the appearance of salads.

Tossed Green Salad

Head lettuce
Endive
Watercress
Thinly sliced raw carrot
Chopped celery
Fresh tomato
Sliced radishes

Have all greens clean, crisp, cold and dry. Peel and cut tomatoes into wedges. Toss all together lightly. Serve with French dressing. For superb flavor with almost no effort try this one:

French Dressing

½ cupful salad oil
A little scraped onion
¼ teaspoonful mustard
½ teaspoonful paprika
½ teaspoonful salt
A little pepper
1 teaspoonful sugar
2 drops Worcestershire sauce
2 tablespoonfuls lemon juice or mild vinegar

Mix all ingredients together, and shake well. Keep in a cool place, and use as needed.

For families who enjoy the flavor of raw onions but for policy's sake forego them, chives were made to order, since they taste like onions but are much more mild and inoffensive. Added to cottage cheese when it is used as a filling for stuffed tomato salads or with pineapple or peach salads it gives just the right exhilarating flavor. When chopped and added to French dressing the chives also "do things" for tossed green salads that are worth knowing about.

CHILD HEALTH DAY "SPEEDS CHILDREN ON THE ROAD TO HEALTH"

"Speed children on the road to health" is the slogan for the 1938 observation of May Day, Child Health Day, it has been announced. The objective is "Every community to make full use of its resources in order to insure to children safe birth, normal growth and protection against disease and accident in the progress from infancy to maturity."

State health officers are appointing state May Day chairmen to arrange for the cooperation of state and local public agencies and private organizations in planning May Day activities that will contribute to year round child health activities.

For community groups the program includes a review of local child health activities; plan for the extension and improvement of child health programs, and a presentation of special child health needs requiring the attention of parents and others in the community.

As May 1 this year falls on Sunday, supplementary observance will be held on Saturday, April 30, and on Monday, May 2. The children will engage as usual in demonstrations, plays, games and festivals illustrating the health needs of youth and the progress made during the year in the knowledge concerning the protection of individual and community health.

Last year, in addition to the proclamation issued by the President, the governors of twenty-seven states issued Child Health Day proclamations. Every state in the Union, as well as Alaska, Hawaii and the District of Columbia, reported some sort of May Day activity. The emphasis throughout is placed on making Child Health Day activities contribute to the promotion of year round child health services.

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AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street Chicago, Illinois

EXERCISE

(Continued from page 435)

is being practiced, are improved, and needless movements are eliminated.

3. The heart gains in size and strength and becomes slower in the rate of its beat. The idea that a large heart in an athlete is abnormal and dangerous is erroneous. There was a time when the name "athlete's heart" was given in such cases, and doubtless not a few excellent risks have been refused insurance because of such hearts. For an athlete a large and muscular heart is just as much of a necessity as a well developed system of skeletal muscles. A slow pulse beat is almost a characteristic of a well trained man, and I cannot recall having examined any good distance runner who did not have a large, slow heart, some of them beating under sixty or even under fifty times to the minute. Further, the pulse of the man in training is accelerated less by exercise than that of the untrained man and returns to normal more quickly after its cessation. Therefore training enables the heart to do its work with more efficiency and economy. It accomplishes more by each contraction but does not have to contract so often, a real saving in the light of the generally accepted theory that each contraction of the heart is a maximal one. Training also increases the oxygen-carrying power of the blood and so contributes a further circulatory economy; the heart does not have to circulate the blood so fast to gain the same amount of oxygenation.

4. In the trained man the arterial blood pressure is usually lower than in the untrained man doing the same amount of work.

To quote Bainbridge, "Training, then, leads to increase of power and economy of effort, and the trained man is better equipped at almost every point to perform muscular work than is the untrained man. By developing his skeletal muscles, his heart, his lungs, training extends very greatly the range of exertions of which a man is capable; and, by bringing about better coordination of his movements, it enables a man to take moderate exercise with a minimal expenditure of energy and with scarcely any sense of effort. Nor are the advantages conferred by training purely physical, since the sense of strength and well being which it usually engenders colors and reacts upon the individual's outlook and reactions as a whole."

As has been pointed out exercise may produce injuries to muscle, muscle attachment or joint.

Such injuries are usually minor and do not damage the health permanently. The serious harmful effects of exercise are more likely to be on the circulatory system—heart or blood vessels. Many times the question has been asked as to whether the healthy, sound heart can be injured by overexertion. The answer today is that it cannot, that fatigue forces a discontinuance of the exercise before the heart can be damaged. However, this is no reason for driving oneself to the limits of endurance. To my mind one of the silliest traditions in athletics is that a man running, for instance, a two mile race should force himself to finish even though there are eight men ahead of him and the nearest one is a quarter of a mile away. He shows a certain sort of tenacity which is more than negatived by a deplorable lack of judgment. If I were a captain of industry I should hesitate to hire such a man unless to shovel dirt.

For purposes of fast and severe exercise it may well be questioned whether any heart which has been beating for forty years or more may be considered healthy and sound, and whether any arteries which have been carrying blood, stretching and contracting for a like time are sound. In middle life, injury can be done to the circulatory system by the violent exercise of youth, and such injury is a menace to longevity, happiness and general usefulness. Even though there may be some exceptions to the general rule, one would be well advised not to assume that one is an exception. It ill comports with either the dignity or the safety of a 50 year old to cavort like a colt.

It seems fair to conclude that exercise is beneficial to the appetite and hence to digestion and nutrition; to sleep, particularly quality of sleep, and to muscular tone, including that of the important abdominal muscles. Perhaps as important as these and not often mentioned is the reserve power maintained by regular, moderate exercise. On reading the quotation from Bainbridge one may object that the office man doesn't need to be in training since he doesn't have to do much muscular work. One may question further whether increasing the heart rate and raising the blood pressure periodically may not be harmful rather than beneficial. Such an objector would doubtless favor governors on automobile motors which would prevent a speed of more than 50 miles an hour. But we are told by those who should know that such governors would increase automobile accidents and woes rather than the reverse; that the lack of pickup and reserve speed would cause accidents when one car attempted to pass another and the driver of the second car showed the customary reaction and speeded up a bit, and that the lack of reserve power would make it impossible for a car to pull out of the mud at times. The office worker can't be sure that he won't be called on to sprint a short distance, to swim vigorously for a short time, to lift and tug when *his* car is in the mud. Then his motor races and his blood pressure goes up violently and suddenly, putting considerable strain on arteries and heart. He subjects himself to more strain than he would if he were in reasonable training, and his circulatory system is less able to stand it. His fellow office worker who keeps in some sort of training has a reserve for such emergencies. Maybe he couldn't run a mile in five minutes, but he can run after a train for a short distance without any great increase in heart rate or blood pressure—and with safety.

And then there is the sense of physical well being which comes after the bath and rub which follow the exercise. It must be admitted that this may be a conditioned reflex, as it is undoubtedly more in evidence with a person who is in the habit of exercise; but it is one of life's little pleasures to him.

In the spirit of fair play it might be said that the physiologists who comment that there is no evidence that exercise is beneficial to the health of adults probably mean that there is no evidence that exercise increases a person's resistance to disease. They would be right at least as far as infectious disease is concerned. Exercise probably confers no immunity to pneumonia or malaria.

And probably it is difficult to remove excess weight by exercise alone. It increases appetite, and if the latter is not curbed, there won't be much reduction without large doses of exercise, so large as to leave little time for any other occupation. It does seem to be true that the long hours of football drill which some of our young men put in of an autumn day tend to bring them toward their optimum weights. The boy who is underweight is apt to gain during the season, and his overweight teammate is almost certain to lose. For the business or professional man who must needs earn a living and still wishes to lose weight, the more encouraging plan would be to restrict the intake.

[NOTE.—Part 3 of Dr. Reed's series on exercise will appear in the June issue.]

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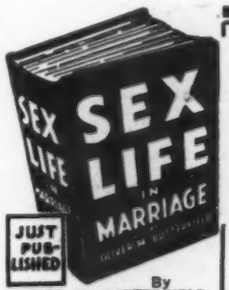

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QUESTIONS and ANSWERS

(Continued from page 445)

Temperature Variation During Menstrual Period

To the Editor:—For three years my temperature has varied with the menstrual period, ranging from normal to 99.8 F. during the two weeks prior to menstruation and from normal to 96 F. the next two weeks. X-rays and examinations have shown there is no tuberculosis of the lungs. Although I have had six months of rest in bed and correction of a thyroid deficiency, I still tire easily. Is a cyclic temperature like mine rare?

Mrs. J. O., Maryland.

Answer.—Temperature elevation recurring at definite intervals or in regular cycles is not a rare occurrence. There is no uniform opinion concerning this question. Some authors believe that menstruation does not have any effect on the temperature; others maintain that there is a characteristic elevation of temperature a few days before the onset and a drop during the time of the menstrual flow; still others assert that the reverse of this is true.

In tuberculous patients it has been frequently noted that women patients do exhibit a characteristic rise of temperature during each menstrual period. In a study made on 100 women patients in tuberculosis sanatoriums who were observed for a period of one year, an equal number of young women all in the same age group but not suffering from any disease were used as a control group. The control group was chosen from girls in private boarding schools as well as in institutions admitting only girls. The study showed that almost without exception the tuberculous patients did have a regular rise of temperature at the menstrual time. Only 10 per cent of the control group showed such a rise of temperature.

Thyroid disease frequently produces a rise of temperature. It is necessary, therefore, for every individual who experiences a rise of temperature at regular intervals to be thoroughly examined and studied for the possible cause of such temperature rise. Diseases of the chest as well as diseases of the thyroid glands must be ruled out. Tuberculosis is the primary disease of the chest that should be determined.

The best procedure in such a case would be for the patient to remain under the observation of a physician in whom she has confidence and then be guided by the advice he gives.

AS A RULE, YOU DON'T EXPECT TO FIND an advertisement written with the fine touch of the essayist, but the Parke, Davis ad, "Self-Portrait of Many Business Men" gives you this very impression. It is well worth reading, not only once, but several times, even though you may not happen to be a business man. See page 393.

A FINE "REFUELING" FOOD FOR BUSY juveniles. Don't look upon Junior's seemingly insatiable appetite as an abnormality. It is probably the call of a busy, hard-working body for something to supply food-energy. Take a tip from the Cream of Wheat announcement on page 469. Three and a half million bowls of Cream of Wheat daily are somthing to consider.

ALONG WITH A NEW BABY, THE SMART young mother can have the added enjoyment of a neat, trim figure, and the ability to wear modish new clothes. Vassarette Foundations can help do the trick, and at a reasonable cost. The Vassarette booklet offered in advertisement on page 473 will interest all women. Sent on your request.

WRAPPING UP A MINOR CUT, SCRATCH OR other slight injury in the average household is frequently quite a bother, due to lack of suitable materials. Do you know there is now available a unique new bandage called "Sealtape"—a gauze impregnated with latex which seals itself without tape. Just a few turns about a finger or hand, and you have a modern, streamline bandage. 10c will bring you a generous size sample package. See page 476.

IF YOUR HOME IS LIKE THAT OF THE AV- erage American, you probably have on hand, most of the time, a package of either Arm & Hammer or Cow Brand Baking Soda. But, do you know that these brands of baking soda are the same sodium bicarbonate which are recognized as official U.S.P. remedies? You can use them for remedial purposes about the home wherever you would use bicarbonate of soda. See Church & Dwight announcement, page 480.

SOMETHING NEW IN RECIPES. WITH THE coming of warm weather, you can find a lot of valuable, timely suggestions for new desserts and ice creams in the recipe book offered by "The Junket Folks." Especially interesting is the fact that many of these can be made in just a minute—no eggs, no baking, no boiling. Write Chr. Hansen's Laboratory for copy of the booklet. See ad, page 478.

Of the most absorbing importance to expectant mothers

"A Child is to be Born"

A reprint of the delightful and practical articles in HYGEIA

Diet · Clothing · Exercise
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ACCEPTED FOODS

This department is a useful guide in the selection of foods of quality, advertised with truthful claims. All products in this section as well as any others advertised elsewhere in HYGEIA stand accepted by the Council on Foods of the American Medical Association, and are entitled to bear its "Seal of Acceptance." The foods listed here are but a portion of those accepted by the Council. If you desire information regarding any other food product, you are invited to write to HYGEIA.

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Do You Know—

1. How many times a minute an adult breathes? *See page 433.*
2. Why a baby should be fed "by the clock" and wakened for his regular feeding? *See page 406.*
3. What to tell your child when he is going to the hospital for an operation? *See page 436.*
4. What is the difference between being infected by tubercle bacilli and being diseased by them? *See page 408.*
5. Who was "Typhoid Mary," and what did she do? *See page 400.*
6. What kind of shoes an expectant mother should wear? *See page 411.*
7. What affliction a person has when one leg is two or three times as large as the other one? *See page 414.*
8. What is the crippling of infantile paralysis due to, and when was this fact discovered? *See page 402.*
9. The names of seven kinds of salad greens? *See page 429.*
10. What methods modern hospitals use for the identification of babies immediately after birth? *See page 417.*
11. What advantages there are in the tannic acid treatment of burns? *See page 445.*
12. What part does vitamin A play in a person's health, and in what foods can it be found? *See page 453.*
13. What is the Summer Round-Up of Children, and who sponsors it? *See page 449.*

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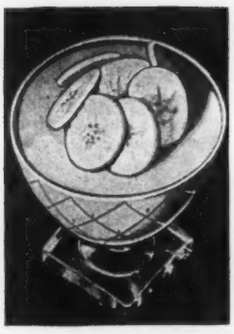
A pure, wholesome and invigorating water makes you want to "drink lots of water."
ECONOMICAL TOO . . . Airless carbonation keeps CLOVERDALE lively long after it has been poured, and preserves the sparkle even when re-capped and put away. Comes to you in bottles ⅓ larger than other leading brands. Used in making CLOVERDALE GINGER ALE and SARSAPARILLA.
Write for details.
CLOVERDALE SPRING CO.
Office: Baltimore, Md. Plant: Hewitt, Pa.
FROM THE LOFTY BLUE RIDGE MOUNTAINS

Dr. Phillips
CITRUS FRUIT JUICES
Recommended for Children
as a Source of Vitamins A, B and C
Dr. Phillips Orange and Grapefruit Juices and Grapefruit Hearts are uniformly rich in vitamin C and always full of flavor. Tree-ripened, they are canned fresh from the grove under the most modern scientific and sanitary conditions. Easy to serve at any time, anywhere. Get several cans today.
DR. P. PHILLIPS CO., Orlando, Florida

Mention HYGEIA when writing to Advertisers

More Mothers Buy Gerber's
Home-grown vegetables, picked at just the right time, strained and cooked in vacuum to protect minerals and vitamins, make Gerber's nutritious and dependable for your baby. 11 varieties.



Milk becomes delicious made into

Rennet-Custards

more readily digestible than milk itself

Make rennet-custards with either:

"JUNKET" RENNET POWDER — Already sweetened and flavored for making an endless variety of rennet-custards. Made in a minute — just add to LUKEWARM milk. No eggs, no baking, no boiling. Six tempting flavors:

Vanilla Chocolate Lemon Orange Raspberry Maple

"JUNKET" RENNET TABLETS — Not sweetened or flavored — add sugar and flavor to taste. More economical for making rennet-custards, easily digested milk foods for infants and invalids. Also for making smoother ice cream with less cream in hand freezers.

FREE Recipe Book —dozens of new desserts and ice creams. Mail postcard to "THE 'JUNKET' FOLKS," Chr. Hansen's Laboratory, Inc., Dept. 335, Little Falls, N. Y.

ACCEPTED AMERICAN MEDICAL ASS'N

ASSURED HIGH QUALITY

C·H·B CALIFORNIA HOME BRAND

Tomato Juice
Tomato Catsup
Chili Sauce

Just a few easy turns

to mash or strain foods with a FOLEY FOOD MILL

Ideal to strain smooth diets for babies or adults —spinach, carrots and all fruits and vegetables. Recommended by doctors. Fills a daily need in every kitchen for all mashing, ricing, straining. Sold by department and hardware stores, or send order direct on coupon below. Circular on request.

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Please send me post-paid item checked below. I enclose price.

FOLEY FOOD MILL

Family Size $1.50—— Junior Size $1.25——

Name.....

Address.....

SCHOOL and HEALTH

(Continued from page 460)

At my next visit to this school a beautiful boat awaited my approval.

"Do you remember how much you liked Jack's handiwork? Well, he has spent all his spare time this month making this for you."

There on the floor was a boat made entirely of colored paper, showing how much painstaking labor had been required for its construction.

No wonder Miss Jones was so proud of her pupil. Jack's clean, shining face reddened at the praise that he was given.

"That's nothing—I'll do something else, if you want it," he mumbled.

"I don't have any trouble with him any more," said Miss Jones later. "I shall be sorry when he leaves my room. I couldn't ask for a better boy."

NEW BOOKS on HEALTH

(Continued from page 461)

THE NORMAL CHILD'S HEALTH CHART

New York: Health News Service, Inc., 1937.

THIS is an application of the rotary chart idea, often used for tabloid presentation of topics such as communicable disease control, infant feeding, photographic exposure tables and similar purposes, to the general subject of child care from infancy to age 6, with special emphasis on feeding. Windows in the chart show data for the ages of 1 month, 4 months, 9 months, 1 year, 18 months, 2 years, 4 years, 5 years and 6 years: the approximate height to be expected, the approximate weight, the varieties of foodstuffs recommended and the mental development usual at these respective ages. The back of the chart is used to recommend diphtheria immunization at 9 months and smallpox vaccination at 1 year and to show charts of temporary and permanent teeth. The chart is being used by the New York City health department to send out to parents whenever a birth is registered.

As a tabloid reminder it is handy and useful; it should, however, bear a statement to the effect that more complete information should be sought in books and pamphlets. Though it lists "medical and dental advice" as a requirement, it fails to recommend *periodic* supervision in health by a physician, which is the fundamental necessity for the health of the child. W. W. B.

BOARD MEMBERS' MANUAL

FOR BOARD AND COMMITTEE MEMBERS OF PUBLIC HEALTH NURSING SERVICES. By the National Organization for Public Health Nursing. Second edition. Cloth. Price, $1.50. Pp. 173. New York: The Macmillan Company, 1937.

THE National Organization for Public Health Nursing, which has done notable work in standardizing public health nursing education, technic and ethics and working for better nursing through better qualified nurses, presents this manual as a logical step in the program for higher standards. The lay board, which often controls the policies of a public health nursing group, can by its wisdom or lack thereof make or mar the community nursing service. It can enlist or alienate medical support and community cooperation, depending on how it proceeds with its policy making and the administration of the nursing service.

This manual should go far to guide the civic minded man or woman appointed to a public health nursing board or committee, eager to discharge the duties and obligations of the position with personal satisfaction and credit for the benefit of the community but unfamiliar with the principles underlying the work. The medical profession, long a pioneer in raising its own professional standards and long a contributor to nursing education, will look with approval on the wise recognition, expressed in this manual, of the fundamental necessity for medical and nursing cooperation for the success of the program of public health nursing in the community.

At first glance the material in the manual may seem too elementary, but on reflection it becomes apparent that it must be elementary, since many individuals whose interest and influence are desired in furtherance of public health programs are uninformed as to the elementary principles involved. The text is clear and readable, sufficiently explicit to be informative and not too technical to be comprehensible. The publication of this manual for board members is a definite service to the cause of public health nursing and therefore to the cause of public health.

W. W. B.

DO YOU LIKE GOOD CREAM CHEESE?
HAVE YOUR DEALER SHOW YOU THE NAME
Breakstone's
WHEN HE CUTS YOUR ORDER

ELECTRIC and MAGNETIC CURE-ALLS

(Continued from page 462)

detail in an article in HYGEIA in February 1927—was, unlike Abrams' boxes, a truly magnetic affair. It was, in fact, what physicists call a simple solenoid. Several hundred feet of insulated wire were made into a coil about 18 inches in diameter; the two ends of the coil were fitted to a standard electric light plug. When plugged into the lighting circuit (about 110 volts, alternating current, the usual house current) there was formed within the coil a fluctuating magnetic field.

With the large coil there came also a smaller coil whose free ends were connected to a small flashlight bulb. The small coil played no part in the alleged curative powers of the I-on-a-co but was important in furnishing the mystery element. When the I-on-a-co was plugged into an alternating current the purchaser was told to bring the small coil within, but not in contact with, the large coil. The induced currents set up by the fluctuating magnetic field would, of course, cause the flashlight bulb to light up and stay alight as long as the small coil was held in close proximity to the large coil. The phenomenon is one that is familiar to every high school student who has studied physics; but it supplied the mystery element so necessary in all successful quackery.

In use the I-on-a-co was placed over the neck, around the waist or the legs of the patient who would, if the coil was duly plugged in, be within a magnetic field. The general public does not know that magnetism—not electricity—has not the slightest effect on the human body or its processes, as stated earlier in this article, for the human body has the same magnetic permeability as air. The I-on-a-co selling slogan was that it would magnetize the iron in the blood and thus cure all ailments. It would have been just as rational to talk of magnetizing the iron in a bunch of spinach! The I-on-a-co cost between $4 and $5 to manufacture; it sold for $58 cash or $65 on deferred payments. It could also be rented at $10 a week. Many imitations of the Wilshire device appeared both before and after Wilshire had died of one of the many diseases his magic horse-collar was supposed to cure.

So much for a few of the more important cure-alls of the real or alleged electrical or magnetic type. In addition there have been in the same field innumerable devices of

LORD BLESS OUR RESTAURANT
" Why Mr. Nickeler! So the Doctor said 'NoCoffee'! Aren't you simply craving for a cup? "
" Ohno, Miss Soopthummer! Ive never craved coffee since the doctor said 'DRINK POSTUM' "

"DOCTOR, it can't be done!" might be your answer to the suggestion that you give up coffee.

Yet "giving up coffee" might be the very thing you needed. For, while many people can drink coffee without ill effects, you may be one of those with whom the caffein in coffee disagrees.

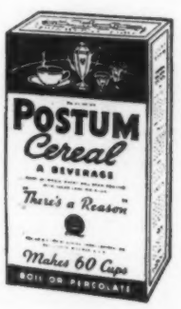
But, if your doctor found it advisable to say "No coffee!" he might make it easy for you by adding, "Drink Postum instead!" . . . as so many doctors *do*.

Postum's steaming aroma, warm and tempting, and its rich delicious, full-bodied flavor soon make the most rabid coffee-lover forget all about forbidden beverages.

And Postum, of course, contains no caffein, no stimulant of any kind. It is simply whole wheat and bran, roasted and slightly sweetened.

Delicious—easy to make!

Postum comes in two forms, Postum Cereal, the kind you boil or percolate, and Instant Postum, made instantly in the cup. Either way, it is delicious, economical (about ½¢ a cup) and easy to make. Postum is a product of General Foods.



An Essential Remedy

Available Everywhere

AT SMALL COST

SODIUM Bicarbonate is required so frequently, and serves so many purposes, that a readily available supply is a real necessity in the home.

Our Sodium Bicarbonate, known from coast to coast as baking soda, is obtainable at small cost in practically every neighborhood throughout the nation. It is sold under two well-known brand names, Arm & Hammer and Cow Brand; they are identical in quality and cost.

These brands of Sodium Bicarbonate are recognized as official U.S.P. remedies by the Council on Pharmacy and Chemistry of the American Medical Association. Frequent analyses maintain them at uniform high quality.

For all the many purposes where Sodium Bicarbonate is required, many experienced physicians use and prescribe our inexpensive product.

You can depend on the purity and effectiveness of Arm & Hammer and Cow Brand Baking Soda (Bicarbonate of Soda).

Business Established in 1846

CHURCH & DWIGHT CO., Inc.
10 Cedar Street New York, N.Y.

lesser note: So-called electromagnetic finger rings made of crude iron and wholly without any magnetic or electric significance were advertised and sold for many years. Then there was a vogue for "electric belts." These were strips of real or imitation leather to which were attached alternate disks of copper and zinc, to be worn next to the bare skin. Pads of allegedly magnetic potency, to be worn in the shoes or about the torso, also had their day and have been forgotten.

Electric blankets have been endowed by enthusiastic exploiters with the wildest of curative powers. These are nothing but large size electric heating pads which, while a convenient, if expensive, method of applying heat have no other therapeutic effect, although some of their exploiters have talked glibly of their alleged electric or magnetic virtues.

The fact is that each age must have its talisman, and what satisfies one generation is laughed at by another. Every electric or magnetic cure-all has been, or is, only a substitute for the cruder amulet, charm or fetish that satisfied a simpler minded clientele. The tractors of Perkins, the Celestial Bed of Graham, the Oxydonor of Sanche, the mystery boxes of Abrams, the magic horse-collars of Wilshire—none has had any greater therapeutic efficiency than that of the left hind foot of a rabbit caught in a churchyard in the dark of the moon. They merely appealed to persons whose I. Q. was a shade higher than those who are impressed with the potency of the cottontail's pedal extremity.

WINGS OVER GUTHRIE

(Continued from page 464)

had long since been attracted by the excitement, Boyard gathered his instruments—his can of blessed sin—and bade them all adieu.

"I'll be up later this evening to see how you are resting," he paused a moment by his patient. "Jest stay here quiet for another half hour, and then let a couple of the men here help you home, and lie down until I come. Margaret or Helen here will stay right with you."

As Boyard walked through the rest of the crowd and back up the two blocks of Main Street to his hotel, his heart sang within him.

But he had never looked back, and so never saw the tears in Sarah's eyes. Shall we say tears of fatigue—or tears of gratitude?